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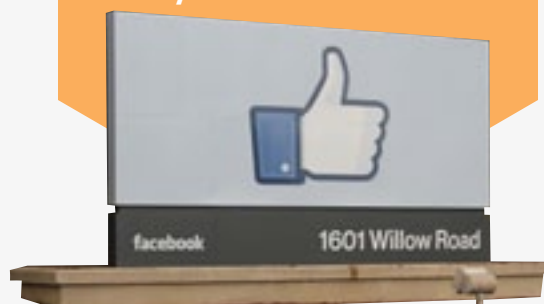
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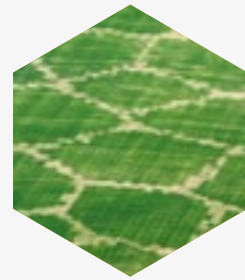
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Trivia-Minded



THE MOBILE MEGAPIXEL WARS GO THERMONUCLEAR

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EDITOR'S
LETTER



Nokia has been teasing a zoomable Windows Phone smartphone for what seems like ages now, and finally it has been revealed. It's the Nokia Lumia 1020, stepping up another 100 over the 920 thanks to the addition of a 41-megapixel, back-side-illuminated sensor sitting behind a 6-element Zeiss lens. Video capture is 1080p and the cameraphone intriguingly offers full manual control, but it's basically a Lumia 920 beyond that, with a 4.5-inch, 1,280 x 768 display and a 1.5GHz dual-core Snapdragon processor.

So, naturally, the draw is that camera, and while we've seen some promising early results from stills and videos, we're obviously going to have to spend more time with the thing to see if it's worth the considerable dent it will make in your pocket. Admittedly, it's far more pocketable than Samsung's Galaxy S4 Zoom, but it remains to be seen whether megapixels can really sell phones. We'll find out on July 26th, when the phone will be available at AT&T for \$300.

T-Mobile hosted its own press event this week as well, in which the always-effervescent John Legere had a number of announcements including the immediate availability of the Sony Xperia Z for \$580, with the Nokia Lumia 925 coming next week for \$50 less. T-Mo also unveiled a program it calls Jump! that, for \$10 a month, will let subscribers trade up to a new phone every six months — paying the up-front cost (usually between \$50 and \$100) and handing over their current handset. Jump! also protects against theft and breakage, making it a reasonable deal if you're a frequent-upgrader who pays for insurance and doesn't mind giving away your precious celly every six months. Meanwhile, those who get attached to their devices need not apply.

Legere was also profanely proud of his company's LTE rollout, which is ahead of schedule. It now covers 116 metro areas and 157 million people, with plans to expand to 200 million by the end of the year. If it can maintain this pace it'll quickly show up both



AT&T and Sprint.


Microsoft announced a major internal restructuring this week, and while re-orgs are something a company the size of Microsoft typically goes through on a quarterly basis, this is a little more comprehensive. Julie Larson-Green is taking over the hardware business, including Xbox (previously helmed by the now-departed Don Matrick) while Terry Myerson is stepping up to take over all of Windows. There are far more changes afoot than I'll bore you with here, but suffice to say, the primary division is between devices and software. The hope is to remove silos between groups and enable greater cooperation between employees, but rotating executives rarely delivers much in the way of meaningful impact for those in the trenches.

Google released a major update to Maps for Android and iOS, including the new Discovery feature, helping you to... discover points of interest nearby. Navigation is cleaner and, interestingly, the Latitude service is being lead out to pasture. At least in name. The location-sharing functionality is being rolled into Google+, giving you one more reason to give all your personal information to Big G. All of it.

We've now seen many pictures and videos of the purported budget iPhone, which is looking more and more likely by the moment. First it was a video hands-on (that has since been pulled) and then a series of photos showing

off a set of colors including pink, blue, green, yellow and, excitingly, white. The design is distinctively polycarbonate and decidedly inexpensive-looking, but just how it performs — and how much it costs — remains to be seen.

Finally, Apple and Amazon have buried the hatchet when it comes to the now-aged App Store debacle. Back in 2011, Apple took issue with Amazon's labeling for its own store full of apps and a fun legal tussle resulted. Early indications were that the courts were leaning in Amazon's direction, which is perhaps why Apple has promised to not sue again in the future.

In this week's Distro we're diving deep into the business of Facebook and the marketing of your information. We have reviews of the Lenovo ThinkPad Helix, that company's business-focused Windows 8 hybrid, the Razer Blade 14 and the big-sized Samsung Galaxy Mega 6.3. There's a new Switched On from Ross Rubin, a new Modem World from Joshua Fruhlinger and Q&A with VP of B&O Play, Henrik Taudorf Lorensen. Now, focus and enjoy. 



TIM STEVENS
EDITOR-IN-CHIEF,
ENGADGET



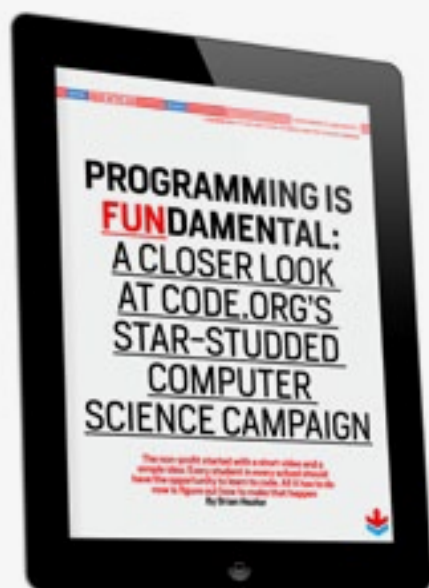
POCKET IMAX, CODE KIDS AND DROPPIN' SCIENCE



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INBOX



**PROGRAMMING IS
FUNDAMENTAL:
A CLOSER LOOK AT
CODE.ORG'S STAR-
STUDED COMPUTER
SCIENCE CAMPAIGN**
ISSUE 97,
JUNE 28TH, 2013

“Starting kids early with programming is great. Python is a great language to get started with. Very legible syntax and structure. You can start them in a Python shell with math problems and work up from there.”

—STRADOSPHERE

“Everyone should be able to program at least in one language. Everyone in my high school was taught BASIC. Even if you don’t end up as a programmer, knowing how all that tech around you works is a pretty fundamental part of education. We teach people geography, biology, languages, physics... knowing what programs are is fundamental.”

—NANNAKO

SONY XPERIA Z ULTRA
ISSUE 97,
JUNE 28TH, 2013

“Ah. The IMAX of smartphones :)”

—CHAKIGUN

“Screen sizes on cell-phones today are what rim sizes on cars used to be back in the ‘90s / 2000s.”

—KOBEDESTROYEDLAK-
ERSSALARYCAP

**INTERNET RADIO
IS INHUMAN**
ISSUE 97,
JUNE 28TH, 2013

“The type of radio you describe is actually still pretty healthy here in Britain, particularly with the BBC owned stations. Check out BBC Radio 6 Music.”

—OLIVERHALE



AMERICAN REDUX:
APPLE, MOTOROLA,
LENOVO AND THE PULSE
OF STATESIDE
MANUFACTURING
ISSUE 97,
JUNE 28TH, 2013

“[It’s] good to see Apple bringing jobs into the US, more companies should follow in their footsteps. Cheers to them.”

— JUNKYARDWILLIE

“They should make a new sticker: ‘Screws Inserted in USA’”

— THEOILMAN

MICHIO KAKU
ISSUE 97,
JUNE 28, 2013

“In the early ‘90s he was teaching a course on the science of Science Fiction at the City College of New York, and I was one of his students. While he mostly debunked a lot of the stuff in film, he also made us believe that we can achieve great things thru science. Teachers like him are not made. They are truly born.”

— VALKIRIE

“Kaku is one of the most personable scientists on the planet. Like Sagan in the late ‘70s and ‘80s, this generation is lucky to have him. I just wish more people would take an interest in what he has to teach.”

— SUPER_BLAH



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EYES-ON

WACOM CINTIQ 13HD



Tap for detail

**BACK IN
BLACK**

**SOFT
TOUCH**

**STAND
UP**

WACOM CINTIQ 13HD

To satisfy the pen display cravings of those who weren't ready to commit funds for the Cintiq 24HD touch, Wacom offered up the tablet-sized Cintiq 13HD. Sporting a hybrid design that combines the Intuos5 touch and the larger Cintiqs, the all-black frame and serviceable display panel keep a pro designer's tool chest dapper.

THE DAMAGE: \$999



ENTER

EYES-ON

DISTRO
07.12.13

WACOM CINTIQ 13HD



BACK IN BLACK

The comfy bezel that felt cozy on the Intuos 5 touch is back here and lines a display panel that offers a solid look at those design files.



ENTER

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EYES-ON

WACOM CINTIQ 13HD



SOFT TOUCH

Wacom's trusty ExpressKeys also make their return, offering a customizable workflow for maximizing productivity.



ENTER

EYES-ON

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WACOM CINTIQ 13HD



STAND UP

Thanks to a smaller, tablet-sized form factor, the Cintiq 13HD can be used on its included stand or on its own — just like a regular old slate.





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Samsung might have pleasantly surprised us with a Galaxy S 4 running stock Android at Google I/O last May, but it wasn't long before HTC followed suit with its own announcement regarding the One. Hardware-wise there's nothing particularly unusual about this HTC One. You're still looking at the same gorgeous design and top-notch materials as the Sense-equipped models. The phone is factory unlocked with quad-band EDGE, tri-band HSPA+ (850 / 1900 / 2100) and quad-band LTE (700 / 850 / 1700 / 1900). Sadly, there's no AWS support for HSPA+, which might be a problem in some T-Mobile markets.

Still, it's the software that really shines, with a totally stock implementation of Android 4.2.2 (Jelly Bean) that's free of any carrier or manufacturer contamination. Beats Audio carries over, however, with a toggle in the sound settings.

PRICE: \$599

AVAILABILITY:
NOW SHIPPING

THE BREAKDOWN:
PURE ANDROID 4.2.2
REPLACES HTC'S
SENSE SKIN AND
DISCARDS BLINKFEED
AND ZOE TOO.

Button management's been revised on the HTC One running stock Android since it only features two capacitive keys. The on-screen buttons commonly found on Nexus devices are gone, including the dedicated apps list key. As a result, the home button provides additional functionality: double-tapping displays the recent apps, and long-pressing brings up Google Now. Obviously, there's no menu

key, but most apps today have an on-screen menu icon (three stacked dots) anyway. Still, we'd like to see an option to simulate the missing menu button with a long-press of the back key.

Google's not going to win any awards for stock Android's lackluster camera app. Thankfully, this version of Jelly Bean comes with a slightly different camera UI than what we're familiar with and appears to benefit from better image processing. It's interesting to note that OIS is only enabled during capture and not while the viewfinder is active. Speaking of the viewfinder, the app's UI still shows a cropped

view when taking 4:3 pictures, which interferes with composition — then again, it's less of an issue here since the HTC One is equipped with a 16:9 sensor. Of course, stock Android means living without Zoe and its wonderful features.



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SAMSUNG GALAXY S 4 GOOGLE PLAY EDITION



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It's probably not a huge stretch to say that Samsung's Galaxy S 4 running stock Android was the biggest surprise to come out of Google I/O last May. In terms of hardware, you're looking at a standard-issue Galaxy S 4 — complete with the same uninspired design and cheap materials as its TouchWiz-equipped siblings. Obviously, there's no carrier branding to be found anywhere. The radios are fully unlocked and support EDGE, HSPA+ and LTE (bands 4 and 17 for T-Mobile and AT&T in the US). Of course, what matters most here is the software — a completely stock build of Android 4.2.2 (Jelly Bean) that's devoid of any carrier or manufacturer apps and services. Yes, this Galaxy S 4 lacks Samsung's S-branded features and other such nonsense. Hurray!

One area where the Galaxy S 4 running stock Android is different from its Nexus cousins is button management. Physical keys have replaced the usual on-screen buttons, which means there's no dedicated recent apps key. That's where the home button comes in: just double-click it for the apps list and long-press it for Google Now — it's the exact same behavior as on the

PRICE: \$649

AVAILABILITY: NOW SHIPPING

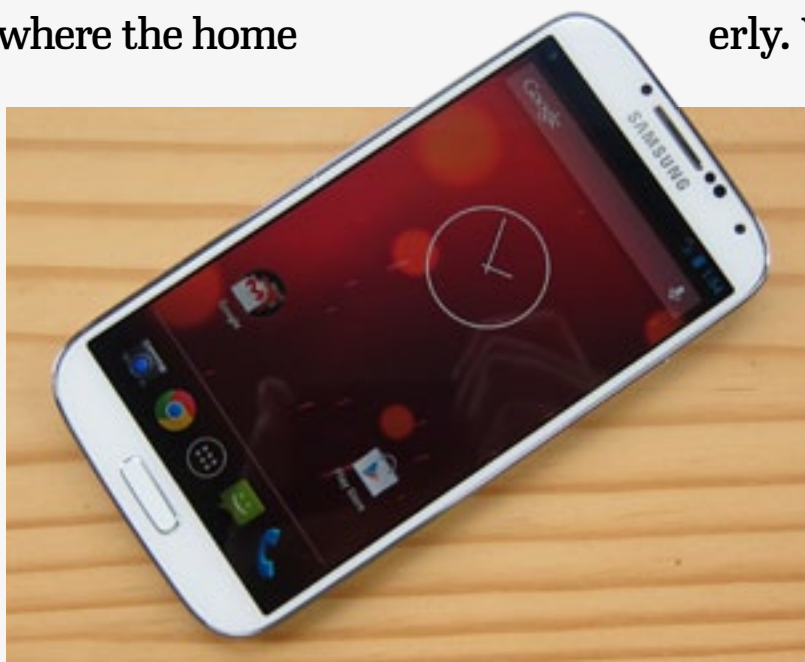
**THE BREAKDOWN: UNSKINNED
ANDROID DITCHES MANY OF THE
SAMSUNG-SPECIFIC FEATURES THAT
BLOATED THE ORIGINAL.**

HTC First. As for the physical menu key, it replaces the on-screen menu icon (three stacked dots) in most apps. We only wish the back button was on the left instead of the right, but that's a longtime gripe of ours with Samsung's handsets.

The drawback with phones running stock Android is Google's lackluster camera app. We're happy to report that this build of Jelly Bean includes a slightly different camera UI and (possibly) improved image processing. Pictures taken with this Galaxy S 4 look just as impressive as those snapped with the skinned models. Some niggles remain with the app's UI: the viewfinder still displays a cropped view, making it extremely dif-

icult to compose shots properly. Yes, with this handset

you're giving up on Samsung-specific shooting modes. Then again, you're gaining Google's awesome Photo Sphere.





CANON EOS 70D

On the surface, this 20.2-megapixel camera doesn't venture far from its 60D roots, but internally, it's an entirely different ballgame. At the core of the 70D's modifications is what Canon's calling Dual Pixel CMOS AF. Essentially, the sensor includes twice the number of pixels in an (very successful) attempt to improve focusing.

There are 40.3 million photodiodes on the sensor, and when they're all working together, "it's like 20 million people tracking the focus with both eyes," as Canon explains. The result is camcorder-like focusing for both stills and video, when you're shooting in live-view mode. During our test with a pre-production sample, the device

PRICE: STARTS AT \$1,199
(BODY ONLY)

AVAILABILITY: SEPTEMBER 2013

THE BREAKDOWN: CANON'S EOS 60D
HEIR RETHINKS VIDEO FOCUSING TO
BOOST OVERALL PERFORMANCE.

performed phenomenally, adjusting focus instantaneously when snapping stills, and quickly, but gradually when recording video.

When comparing focusing side by side with the 60D, the improvement is immediately evident. Where 2010's model stumbles,

the 70D shines. This specific performance boost is limited to live-view shooting, though viewfinder users should see some improvement as well — just like the 7D, the new model sports 19 AF points, compared to just nine on its predecessor. The 3-inch, 1.04M-dot Vari-Angle display sports touch functionality — tapping to focus is a key asset here, letting you adjust from one subject to the next without adjusting composition, while also identifying objects that the camera should track.

There are other improvements as well, but they pale in comparison to the Dual Pixel CMOS AF, which is fully compatible with 103 EF lenses. That tech is likely to make its way to the rest of Canon's lineup eventually, but if you want to take advantage now, there's only one model in the world that includes it. There's also a multi-shot noise-reduction mode, which we often see on higher-end point-and-shoots, but rarely DSLRs.



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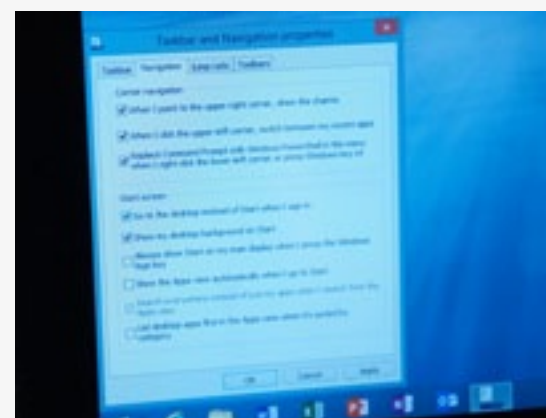
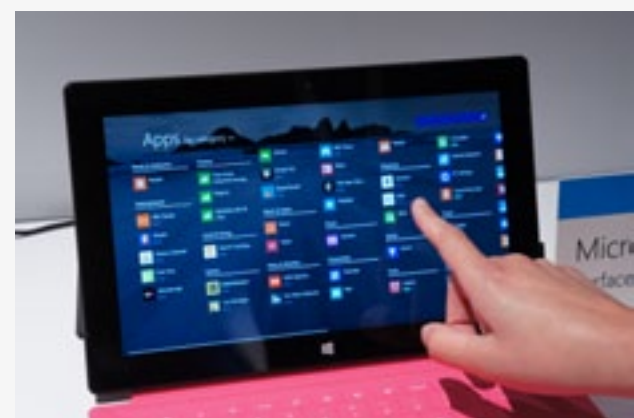
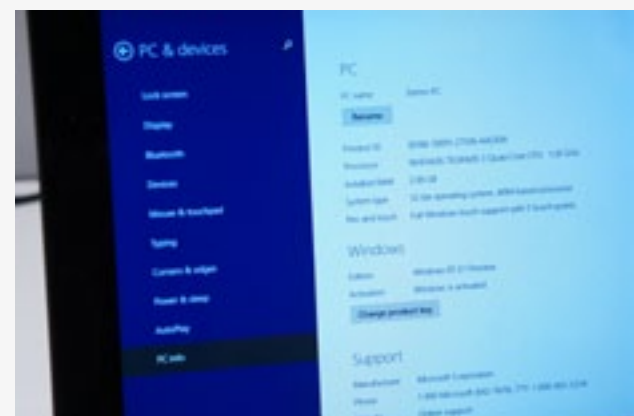
WINDOWS RT 8.1



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When we got hands-on with the Windows 8.1 preview, it was on a Surface Pro — i.e., an x86 system running full Windows. Until now, though, we hadn't had a chance to try the software on a device running Windows RT. Well, fortunately for us, Microsoft had a row full of freshly updated Surface RT units on display at Build, so we took the opportunity poke around a little. As you'd expect, Windows RT 8.1 has all the trappings of the full Windows version, including an always-there Start button and new apps like Food & Drink and Health & Fitness. What's sort of interesting is that you can boot to the desktop here as well, just as you would on Windows 8.1. (We say "interesting" because, well, how urgently do you need the desktop on RT anyway?) The desktop also still comes with Office apps pinned to the taskbar, in case you were wondering.

Performance seems much the same as before, particularly because we were handling last year's Surface RT, which still ships with a Tegra 3 SoC. Browsing and loading tabs in IE11 feels snappy but then again, IE11 was *supposed* to be a tick faster than IE10. Overall, navigating the OS can still feel slightly sluggish, but the build we tried is at least stable. Other than that, it looks like we'll have to wait for some new ARM chips before we can revisit performance in Windows RT. We'll also be back to take a look at the forthcoming RT Outlook app, which we haven't seen yet.



PRICE: FREE

AVAILABILITY:
PREVIEW

THE BREAKDOWN:
WINDOWS RT 8.1
STRUGGLES WHEN
PAIRED WITH
SURFACE'S TEGRA
3 CHIPSET, MUCH
LIKE THE PREVIOUS
RELEASE.





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MISELU C.24


The last time we covered Miselu was during Google I/O 2012 when we took a second look the Neuro Android-powered synth. Fast-forward a year and the company's shifted its focus to a completely new product — the Miselu C.24 wireless music keyboard for iPad — which launched this week for \$99 on Kickstarter. The device is a high-quality, two-octave (24-key) collapsible music keyboard designed to be a magnetic iPad cover when stowed. It features Bluetooth 4.0 Low Energy, micro-USB connectivity and a sealed Li-ion battery, which provides five to six hours of operation.

As such, it's compatible with any Core MIDI iOS app and any OS X, Windows or Linux soft-

ware that supports MIDI over USB. The C.24 integrates a capacitive ribbon divided into two areas — eight buttons with four LEDs each on the left (octave selection by default) and a linear controller on the right with 32 LEDs (pitch bend by default). Miselu plans to ship the product with a companion iOS app in time for the holidays.

We briefly played with a prototype and came away extremely impressed.

What's special about the C.24 wireless music keyboard is that it magically unfolds from a compact 242 x 185.7 x 9.9 mm (basically the size of an iPad) to an expansive 242 x 201.3 x 28.5 mm. This enables a decent amount of key travel and allows the slightly narrower keys to be long enough for comfort. Each key is tracked via an optical sensor and delivers MIDI velocity and monophonic aftertouch data. The iOS app bridges the gap between Bluetooth

and Core MIDI and manages configuration presets. Miselu's collapsible music keyboard is also expandable through open hardware modules (for additional controllers such as knobs, faders, sliders and X/Y pads), which slot above the capacitive ribbon and will be available in the future. 

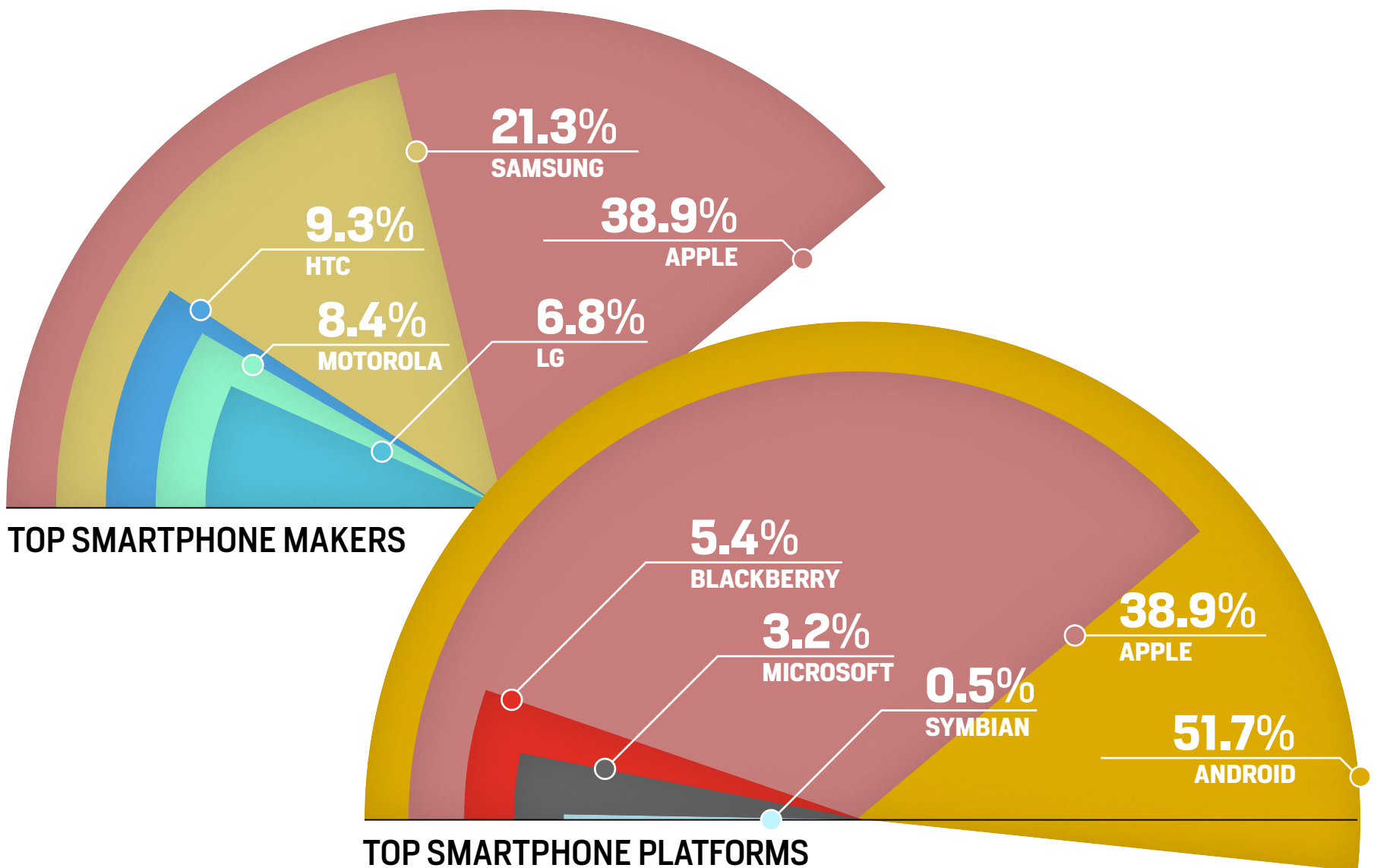
PRICE: \$99

AVAILABILITY:
NOVEMBER 2013

THE BREAKDOWN:
THIS WIRELESS MUSIC
KEYBOARD FOR iPad
UNPACKS 24-KEY
BLUETOOTH CHOPS
AND MIDI SUPPORT
OVER USB.



TOP FIVE US SMARTPHONE MAKERS AND OS PLATFORMS



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AVG. ENDING
MAY 2013

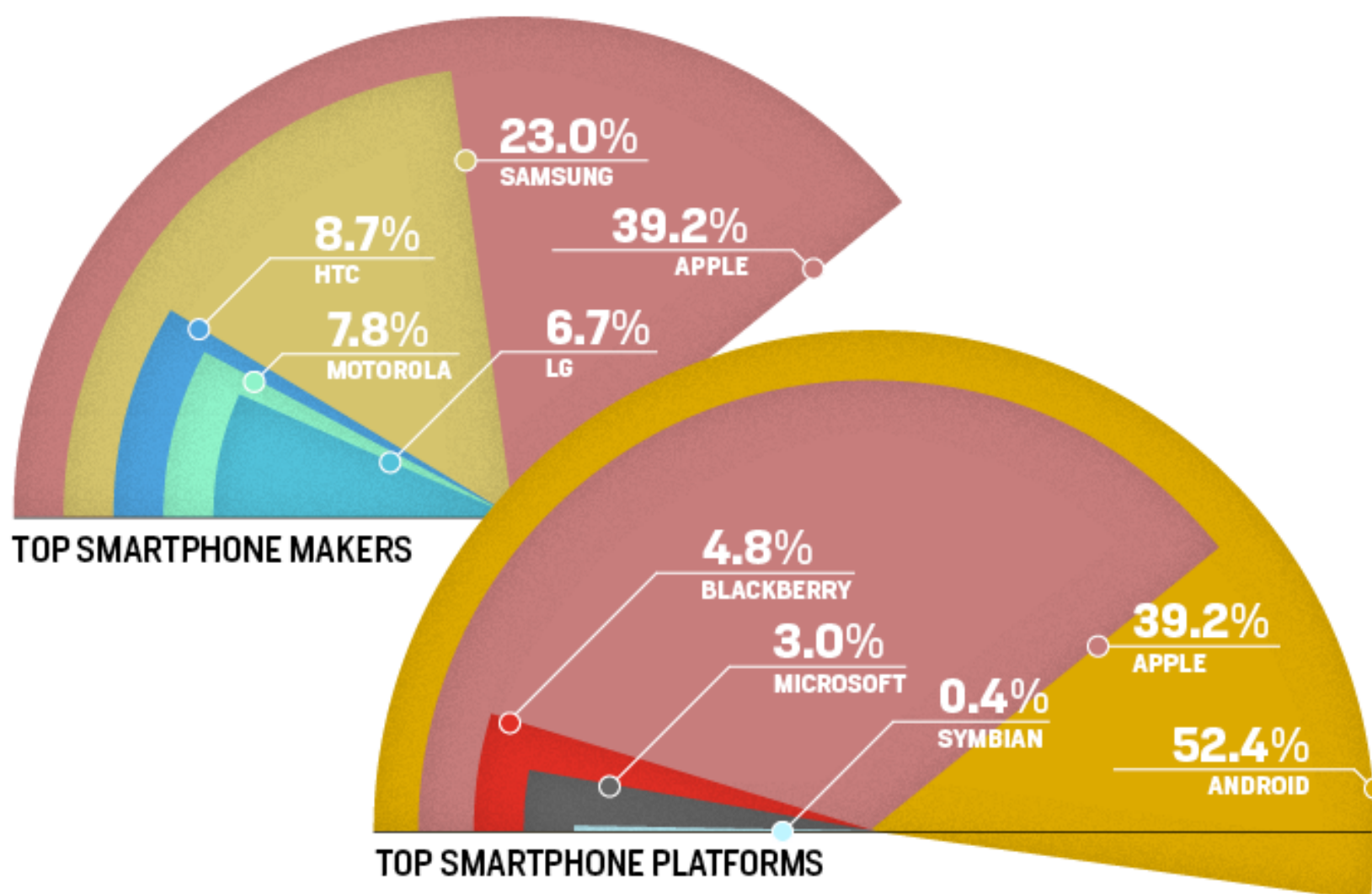
Smartphone Status Update

New smartphone models are hitting the market fast and furious these days and thanks to comScore's MobiLens updates, we can keep pace with the changing data. Its latest report compared the US smartphone market's three-month average ending in May 2013 over the previous three-month block. Smartphones nabbed 59 percent of the mobile market with a 6

percent uptick over February and reached 141 million owners. Apple was still at the head of the class for handset sales with a 39.2 percent share, followed by Samsung at 23 percent. Still, Android was dominating OS platforms, snagging 52.4 percent of the US market, with Apple none-too-far behind. This didn't leave much room for other OSes and manufacturers, and consequently they all saw a minor decline since the previous period. — *Jon Turi*



TOP FIVE US SMARTPHONE MAKERS AND OS PLATFORMS



Smartphone Status Update

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3-MONTH
AVG. ENDING
FEB. 20133-MONTH
AVG. ENDING
MAY 2013



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Born Slippery: The Making of Star Fox

By Damien McFerran
Eurogamer

If you're anything like us, you could happily spend a fair bit of time reading one behind-the-scenes tale of a classic video game after another. This one from Damien McFerran at *Eurogamer* concerns a game that most over a certain age will no doubt be familiar with, and ar-

rives on the occasion of its 20th anniversary. Yes, *Star Fox* is now 20 years old, and it remains one of the more unusual items in Nintendo's history. As McFerran explains, that's partly due to the game's origins, which start with Argonaut Software, a UK developer that would end up partnering with Nintendo on the title and the Super FX chip that helped power its 3D graphics.



Douglas C. Engelbart, 1925–2013

By John Markoff
The New York Times

There's been a fair bit written about computing visionary Douglas Engelbart since his death last week, but this obituary from John Markoff in *The New York Times* provides one of the better overviews of his remarkable career and accomplishments, which extend far beyond the invention of the computer mouse that he's most often credited for.

Toiling in the Bitcoin Mines

By Cyrus Farivar and Lee Hutchinson, *Ars Technica*

A two-part look at the Bitcoin phenomenon and one of the companies at the center of it: Butterfly Labs, maker of dedicated Bitcoin-mining hardware. In the first part, Cyrus Farivar examines the company itself and the controversy surrounding it, while the second from Lee Hutchinson takes a hands-on look at its hardware and what it's like to mine.

Sid Meier: The Father of Civilization

By Jason Schreier
Kotaku

A look at another key figure in gaming history, *Kotaku's* Jason Schreier here offers an in-depth profile of *Civilization* creator Sid Meier, covering everything from his earliest work in computer games to his own "Moby Dick" that he's yet been able to chase down: a dinosaur game, which he's spent the past decade-and-a-half trying to make.





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NOOK TABLETS: AN EPILOGUE

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FORUM

SWITCHED
ON

BY ROSS RUBIN

THE RECENT ANNOUNCEMENT by Barnes & Noble that it would discontinue its Nook tablets marked the exit of what once promised to be a strong rival to Amazon, at least among bibliophiles. Barnes & Noble's entry into the tablet market took place amidst an annual game of leapfrog with its internet-based rival.

Surviving for three iterations, the color Nook devices were products that had a particular focus on media consumption — especially reading — and eschewed open access to apps.

WHAT WENT RIGHT

First-Mover

Perhaps feeling burned by the head start that the e-paper Kindle had over the original Nook, Barnes & Noble released the first Nook Color well in advance of the Kindle Fire, although it stopped shy of calling it a tablet, a name reserved for the Nook Color's aesthetically similar, but sped-up successor.

Design

Unlike the first Kindle with its oddly wedged design and the first Nook with its incoherent two-screened scheme, the first color Nook — designed by Yves Behar — was attractive and distinctive with its carabiner-like corner. Barnes & Noble also partnered with LG to deliver displays that had exceptional outdoor readability.





The Nook HD+ tablet is [was] the premium option.

“The first color Nook — designed by Yves Behar — was attractive and distinctive with its carbiner-like corner.”

Featured with Friends

While perhaps too late in the game, Barnes & Noble not only invested in prominently featuring the Nook in its stores, but also in featuring a wide range of cases and other accessories for it — the availability of which belied its small market share.

WHAT WENT WRONG

The Walled Garden

Even though the Nook Color and its successors were based on Android, Barnes & Noble turned its back on the Google Play store. Unlike Amazon, which launched a broad Android Appstore,

Barnes & Noble handpicked apps that were designed specifically for the color Nooks, creating a degree of oversight that exceeded even Apple's.

Despite seeking to expand the app selection in later years, this closed system resulted in far fewer apps for the Nook tablets than for others. Barnes & Noble finally opened the door to Google Play, freeing its tablets from limited developer support, but it was too little, too late.

As recently as the introduction of the Nook HD tablets, Barnes & Noble defended its selective app store by saying it was designing an experience for the Barnes & Noble shopper, but ap-



“Unfortunately, the protection of experience that Barnes & Noble sought with its restrictive app policies became a liability.”

parently those who identified as such turned out to be too small a market or wanting more. A Nook needed to be more than a niche.

Banking Beyond Books

The shift to LCD display technology from e-paper exposed the thinness of Barnes & Noble's content offerings beyond books. Whereas Amazon had tied the Kindle Fire to its Prime service that pairs the odd combination of free two-day shipping and a Netflix competitor, Barnes & Noble was stuck with offering only Netflix, broadly available on many other devices. It eventually responded with its own Nook video service, an a la carte, “buy or rent” service competing with iTunes, Vudu and Google Play.


The Competitive Threat

While Barnes & Noble might have been able to remain a strong second to Amazon for tablets catering to reading enthusiasts, its foray into broader multimedia made it more vulnerable to threats from dominant competitors like Apple as well as a host of other prod-

ucts. Apple's launch of the iBookstore and then the iPad mini made for a one-two punch that did more to knock out the Nook than Amazon's launch of the Kindle Fire HD.

The Nook Color and its successors were products that were designed well, merchandised well and represented a good value. Unfortunately, the protection of experience that Barnes & Noble sought with its restrictive app policies became a liability as the attack of sub-\$200 Android tablets from below and the iPad mini from above made the battle extend far beyond its old rivalry with Amazon.

What Happens Next?

The Nook name won't completely disappear from tablets; Barnes & Noble has said it will partner with other tablet makers to co-brand devices in what could be something like the Google Nexus program. Ironically, Kobo, which started life as a book service designed to be free of its own hardware, carries on for those who want a more bibliocentric tablet experience. 



FOUR WAYS TO FIX E-COMMERCE AND SHIPPING COMPANIES

DISTRO
07.12.13

FORUM

THIS IS THE
MODEM WORLD

BY JOSHUA FRUHLINGER

I'M GOING OUT OF MY HEAD RIGHT NOW. I came home hoping to find my cool new Santa Cruz mountain biking jersey all wrapped in plastic thanks to UPS via Chainlove.com, my crazy-discounted gear site of choice. We're not talking anything expensive — I think the thing cost me \$20, but I was psyched to have a team jersey from my favorite bike company. I'm a bike dork, what can I say?

I should have been skeptical when I tracked my package from the office to learn that it had been left at my “front door” at exactly 2:00 PM. While it's possible the driver hit the 2 PM mark on the head, it's unlikely that he or she left anything at my “front door” given that it's three stories or 76 stairs — my mom counts and complains every time she visits — above the street. In fact, every single deliv-

ery I've ever received here was tossed over my little wooden fence. But in my head, everything was fine. The jersey was waiting for me, my future as a Santa Cruz team member assured. Victory was mine.

But there was no package, downstairs or way up at the “front door” of my house. There was no Santa Cruz jersey. There was no fanfare. No finish line. Nothing.



Deflated, I knew what was coming next: a pointless call to UPS.

And so it was. I talked to “Mitch” — a woman — who informed me that there was nothing she could do and that I’d have to call Chainlove.com. I asked if she could contact the driver to find out if the package was actually left at the “front door” or if it had been simply tossed over the fence at street level as usual. She told me she had no contact with the drivers.

Yes, UPS customer support apparently now has no way to contact the drivers. I’ve been down this path before, and there are ways to wrestle yourself to the driver via the local dispatch, but I found it amusing to hear that UPS tells its customers it has no way to contact its own employees. I gave up, as I knew what was coming next: a whole lot of nothing.

So there we have it. I’m told I need to contact Chainlove.com to ask them to contact UPS because they have information that UPS needs. I’m essentially out of the loop and hoping that the two companies resolve my — albeit small, in the scheme of things — issue.

But here’s the thing: This isn’t the first time this has happened to me, or — I can assume — you. How many times has a shipping company messed up your e-commerce delivery? I’m going to guess it’s happened more than once. And here’s the more important thing: How many times has that damaged your perception of said e-commerce company?

Every. Single. Time. Right?

Let me make something clear: I love Chainlove.com. They throw out some great deals for addicted gearheads like myself. But now that I’m stuck proving that I did not, in fact, receive my stupid biking jersey, I’m feeling a bit bitter. E-commerce, as great as it is, is inexorably attached to shipping companies who — every single one of them — are not so great at customer service, and it hurts the technology.

I’ve gone to local stores just to avoid the inevitable pain that shipping so often causes me. I’ve paid more for the simple security that I, and only I, am responsible for getting the product home from the store and into good use.

Rather than continue to complain — I’ve done enough of that already — I present some simple ways that shipping companies can fix all of this via technology that already exists.

1 GIVE US VISUAL PROOF OF DELIVERY

Give your drivers smartphones, which they probably already have, and have them take a quick picture of the package at the “front door” or wherever else you say it is. That way, we know where it is, as soon as we open the tracking information, if the thing is indeed where you say it is. This simple act can happen at the same time as the delivery scan, adding little to no time to the delivery process. In fact, couple it with a barcode reader and two birds have been struck with one stone.



2 GIVE US GEOLOCATION INFORMATION

You and I both know that you know where the package is. Expose that information to the consumer. Be transparent. Let us watch it move across the country and into a local delivery truck. It will be both fun to see and recuses all parties from misconduct. Everyone wins. Pizza companies do it. Taxi services do it. You can do it. And when you do, you'll be our heroes.

3 ENABLE YOUR CUSTOMER SERVICE REPS

When I am told that the representative I am talking to has no way of contacting the delivery person, I am filled with a mix of doubt and helplessness, and no one wants to feel that. Surely you have the ability to bridge the gap between dispatch and customer service, and, if not, I can introduce you to a few companies who have conjured ways to share networks and phone systems. This is the 21st century, after all.

4 ENABLE YOUR DRIVERS AND PUT US IN TOUCH WITH THEM


I'm willing to bet that most delivery drivers just want to do their job, get paid and go home like the rest of us. If you gave them the tools to communicate with customers — and vice versa — things would probably go a lot smoother. Sure, some customers would annoy the heck out of the drivers, and you'd have to deal with that. And, sure, some

“You and I both know that you know where the package is. Expose that information to the consumer.”

drivers would be total customer service nightmares, but you'd deal with that too. In the end, though, you'll have better drivers and customers who are less frustrated.

Perhaps I'm too idealistic. Clearly, shipping companies are out to spend as little as possible and make as much at the same time, and e-commerce companies are out to spend as little as possible on shipping, so they're really in on it together.

But the cold, dark truth is that the shipment portion of an online order is the final touch point that a consumer has with a brand, and if that part goes awry, so does the whole relationship. Maybe with a little pressure from the e-commerce firms and some enlightened leaders at the shipping companies we'll — one day — enter a new age of trust and transparency. Until then, I'll be talking to “Mitch,” the girl.

We can fix this with technology. Years ago, you told us that GPS technology wasn't ready. Years ago, you told us that mobile bandwidth wasn't there. So what's your excuse now? 





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LENOVO THINKPAD HELIX



The **ThinkPad Helix** offers a great display, interface and lots of flexibility, but will the price and last-gen processor keep the business-class users at bay?
By Dana Wollman

It's been six months since Lenovo launched the ThinkPad Helix at CES, but during that time we've never really stopped talking about it. Every time we've reviewed a comparable product — a small-ish PC that could be used in some sort of tablet mode — we've returned to the Helix as a beacon of what could be in this category. All told, the Helix has had a few things potentially recommending it: it rocks the same sturdy, well-spaced keyboard you'll find on other ThinkPads and a spec list that includes NFC, a Wacom pen digitizer and a high-quality, 11.6-inch, 1080p



display. Best of all, the Helix can be used in three ways: not just in tablet mode, but also with the tablet inserted either facing the user or pointed away, a design Lenovo is calling “Rip n’ Flip.” It’s the sort of versatility we loved so much in Lenovo’s Yoga line; only this is a more compact machine with a higher-res screen and pen input. Sounds lovely, right? Read on to see if it’s as good in practice as it is on paper.

LOOK AND FEEL

Take away the keyboard dock, and the Helix looks sort of like the ThinkPad Tablet 2, which in turn looks like any recent ThinkPad. Clearly, the company knows it has a good thing going with

its design and, just as important, that its entire brand is wrapped up in soft-touch materials, red accents and sturdy keyboards. Besides, it was a really, really big deal when Lenovo revamped its touchpad layout, so it makes sense the company isn’t taking chances on any other part of the design.

Obviously, the main thing that makes the Helix different from the ThinkPad Tablet 2 is that it’s bigger (adding a heavy-duty Core i5 processor will do that). Also, this has an 11.6-inch screen, not a 10.1-inch one. If we’re talking about just the tablet, it feels heavy, in the way most tablets above 10 inches feel sort of cumbersome. In the grand scheme of things, however,

The size of the Helix is a step up from the ThinkPad Tablet 2.



it couldn't have been much lighter: the Surface Pro, which has a 10.6-inch screen, weighs two pounds, though its smaller footprint admittedly makes it slightly easier to handle. In the strictly 11-inch category, the only lighter Core i5 tablet we can think of is the Acer Aspire P3, which weighs a similar 1.74 pounds. All of which is to say: if you've already decided you want a Windows tablet with this kind of horsepower, you've probably already come to terms with the weight tradeoffs.

It's only when you connect the included keyboard dock that the Helix starts to feel heavy. The full package weighs 3.8 pounds — nearly half a pound more than the 12-inch Dell XPS 12 convertible Ultrabook, which tops out at 3.35 pounds. Even Lenovo's own Yoga 13, which has a larger 13-inch screen, weighs just 3.3 pounds, and that, too, can be used in both laptop and tablet modes, if you recall. There are some design issues with the dock itself as well, but we'll get to those in a moment.

First, taking a tour around the device, you'll find a 5-megapixel camera around back — strangely with no LED flash nearby. Also on back, there's a subtly drawn marking that shows where the NFC sensor is hidden. Up front,



The bottom edge of the tablet is chock-full of ports.

there's a lower-res 2-megapixel webcam for video chatting. Assuming you're holding this in landscape mode, that top edge is where you'll find the vent, which makes sense since it's out of the way whether you have it docked or you're cradling it in-hand. Still focusing on the top edge, you'll find a slot to stow the included pen, which, by the way, has the same red TrackPoint-inspired cap as the one on the ThinkPad Tablet.

Also on top there's the all-important power / lock button, which is just recessed enough that you might find yourself using a fingernail to get at it. Over on the right are the headphone jack, Kensington lock slot and volume rocker for when you're using this in tablet mode. The left, meanwhile, is totally blank. Finally, we get to the lower landscape edge, which is where all the action is. Arranged in a neat row, from left to right, are a power connector, SIM card tray, Mini



DisplayPort and a USB 2.0 socket. On the back of the keyboard dock, you get two additional USB ports, a DisplayPort and a power connection — the same USB-like one found on the tablet itself.

THE DOCK

The problem, as we hinted earlier, is that the two pieces make for an awkward duo. First, let's start with the good. To Lenovo's credit, the tablet portion latches on sturdily, thanks to six different connecting points, including two tall, toothy guides at either end. Seriously, you could grab this thing by the lid if you wanted to (hey, it's your toy) and the keyboard would stay tightly fastened. The tablet makes a reassuring little *click* when you snap it in, and it's also easy to release (just press the button on the left edge of the dock, up by the hinge).

And yet, attaching it in the first place can be an exercise in trial and error, as those docking guides are narrow and easy to miss when you're trying to drop the tablet in by feel. Meanwhile, because the connectors are so darn pointy, they become a liability if ever you choose to put the dock inside your bag without the tablet inside;

make no mistake, things are *definitely* going to get caught on it.

Lenovo made some other hard-to-explain design choices too. Starting with the obvious, there's a flap on the back of the hinge, covering the fan. Lenovo says the flap is there to redirect air from the fans to help cool down the machine. The thing is, the vent still gets warm, as does the entire back side of the tablet. Also, the flap is ugly, and occasionally gets in the way. (And besides, every other competing tablet gets by just fine without such a contraption hanging off the back.) In particular, if you have the tablet inserted face-out (that is, aimed away from the keyboard), the flap can actually cover the physical Start button, depending on how you angle the screen in the dock. For instance, if the screen

is more or less upright, the flap is most definitely going

The keyboard dock joins to the tablet via several connectors.





The dock's hinge is hard to move without the tablet inside.

to obscure the Start button, which is a shame since that's one scenario where you might actually use it — it's not like it'd be convenient to reach around and tap the Start button on the keyboard instead, ya know? To get around this, you could dip the screen back at more of a 45-degree angle, with the display still facing up, but that's not ideal, especially not for things like presentations.

The other bizarre thing about the dock is that unless you already have the tablet latched in, it's very difficult to push the hinge down so that it lies flat against the keyboard. You *could* do it that way, but you'll be met with a good deal of resistance, to the point where it might actually feel like you're about to snap off that crucial hinge piece. Take it from us: if you're going to move the hinge, put the tablet in first.

KEYBOARD AND TRACKPAD

Before Lenovo overhauled its laptop trackpads, it redid its keyboards. That was a big change at the time, but now it's old hat. As on other recent ThinkPads, the Helix has a six-row layout, with chiclet-style, spill-resistant keys, each of which has a roomy U-shape design that makes

it easy to strike the right one without looking. At the same time, there's still plenty of space between the individual buttons and all of the major keys are still amply sized, a feat considering this is a petite 11-inch machine we're dealing with. Really, if anything's been shrunk down, it's the function keys where you can control things like volume and screen brightness. Seems like a fair trade to us.

Equally important, the underlying panel is sturdy enough to stand up to even the most furious of typists. The buttons also offer a good deal of travel, especially compared to Ultrabooks and standalone keyboard docks for tablets. No, these buttons might not feel as pillowy as your old T-series notebook, but they weren't meant to either.

The Helix is one of the first ThinkPads to ship with Lenovo's redesigned





While the keyboard is familiar, the trackpad is all-new.

touchpad, which ditches physical buttons in favor of a giant, flush surface with different touch zones. All told, it's 20 percent larger than previous generations, according to Lenovo, thanks to the freed-up space where the buttons used to be. Not only are there no discrete left- and right-click buttons anymore, but the

ones meant to accompany the TrackPoint are also hidden. There's no scroll strip to use with the tracking stick anymore either; instead, there's just a series of raised bumps at the top of the trackpad, just below the space bar.

For any of the ThinkPad fanboys who've been waiting months for the Helix to ship, this change will be a big

For any of the ThinkPad fanboys who've been waiting months for the Helix to ship, this change to the touchpad will be a big one. An alarming one, even.



one. An alarming one, even. Lenovo says it has a good reason: that Windows 8 laptops deserve larger trackpads for carrying out all those native touch gestures, like swiping in from the top to expose app settings. That, and there are plenty of potential ThinkPad customers who just don't "get" the idea of a TrackPoint, much less the buttons that go with it.

So here we are, with a spacious touchpad that would look right at home on any other notebook, but not necessarily a ThinkPad. You can whine that it's unfamiliar, or that Lenovo possibly caved to the wrong kind of customer. You might be right. But in fact, it works just fine — once you master the learning curve, anyway. At the very beginning of our testing period, there were a few times when I managed to hit a narrow dead zone in the middle of the trackpad, a place where neither right nor left clicks registered. With a little more hands-on time, though, that became a moot point; now, I always nail right and left clicks on my first try. Somehow, then, it's possible to re-train your fingers to hit the right places, not unlike the way you adjust to a new keyboard. Practice makes perfect, not that that makes a good marketing tagline for Lenovo.

Mind you, the trackpad isn't perfect, but we're having trouble blaming it on the redesign. For instance, if you're tracking the cursor with one finger, it doesn't always go where you want it to, but that's true of many Windows laptops, regard-

less of who the PC maker is or who supplied the touchpad. In any event, more complex gestures like two-finger scrolling, pinch-to-zoom and all the Windows 8-specific shortcuts (swiping for the Charms Bar, etc.) work just fine.

DISPLAY AND SOUND

Say what you will about the funky keyboard dock and newfangled trackpad: the display is flawless. For this, its flagship Windows 8 hybrid for businesses, Lenovo chose an 11.6-inch IPS panel with 1,920 x 1,080 resolution, a digitizer for pressure-sensitive pen input and a 400-nit brightness rating. Particularly with the brightness cranked all the way up, the viewing angles are solid, both on the vertical and horizontal axes. Even in an office with both harsh overhead lighting and a good deal of natural light, the screen showed minimal reflections, despite the fact that it's not actually an anti-glare screen.

Also, aside from easy readability, we found that colors and contrast stayed the same even as we viewed the screen from odd angles, perhaps with the laptop in a lap, or with the tablet off to our sides. That latter scenario was of particular importance to us, as we occasionally used the docked Helix as a sort of second screen, a place where we could browse the internet or load video without disrupting anything on our primary PC. If that setup sounds appealing to you, too, be glad you won't have to suffer any washed-out colors with the





The 1,920 x 1,080 display looks great at most viewing angles.

Helix sitting in your peripheral vision.

The sound quality, meanwhile, is actually decent in the sense that there isn't a huge rise in distortion at higher volumes. Kanye's "I Am a God" and Eric Clapton's electric guitar didn't sound much worse at level 100 than they did at 70. Then again, the volume doesn't get very loud, though it should still be fine for a conference call in a quiet space. Failing low-noise surroundings, you could always pair it with a speaker, we suppose.

PERFORMANCE AND BATTERY LIFE

In recent weeks, we've been taking various PC makers to task for pushing systems into the market with last-gen Ivy

Bridge processors. In the case of the Helix, though, Lenovo might have an excuse: while Intel is shipping Haswell chips for consumer systems, it hasn't yet released its business-grade processors. So, unless Lenovo wanted to delay the Helix even further until the fall, it had to make do with Ivy Bridge. (If *you* can wait that long, Lenovo says the Helix will get Haswell... eventually.)

As it is, the 1.8GHz Intel Core i5-3337U CPU, 4GB of RAM and Intel HD 4000 graphics help the performance keep pace with other devices in this class. We're partly referring to benchmark scores, yes, though the Toshiba-made SSD also delivers fast read speeds of



BENCHMARK	PCMARK7	3DMARK06	3DMARK11	ATTO (TOP DISK SPEEDS)
LENOVO THINKPAD HELIX (1.8GHZ INTEL CORE i5-3337U, INTEL HD 4000)	4,549	3,734	E959 / P520 / X180	553 MB/S (READS); 501 MB/S (WRITES)
ACER ASPIRE P3 (1.5GHZ INTEL CORE i5-3339Y, INTEL HD 4000)	3,867	3,999	E925 / P503	552 MB/S (READS); 524 MB/S (WRITES)
SONY VAIO DUO 11 (1.7GHZ CORE i7-3317U, INTEL HD 4000)	4,545	4,807	E1,107 / P621 / X201	540 MB/S (READS); 525 MB/S (WRITES)
SONY VAIO PRO 11 (1.8GHZ CORE i7-4500U, INTEL HD 4400)	4,634	N/A	E1,067 / P600 / X183	558 MB/S (READS); 255 MB/S (WRITES)
MSI SLIDEBOOK S20 (1.8GHZ CORE i5-3337U, INTEL HD 4000)	4,043	3,944	E1,053 / P578	484 MB/S (READS); 286 MB/S (WRITES)
ASUS TAICHI 21 (1.9GHZ CORE i7-3517U, INTEL HD 4000)	4,998	4,818	E1,137 / P610 / X201	516 MB/S (READS); 431 MB/S (WRITES)
MICROSOFT SURFACE PRO (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,673	3,811	E1,019 / P552	526 MB/S (READS); 201 MB/S (WRITES)
DELL XPS 12 (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,673	4,520	N/A	516 MB/S (READS); 263 MB/S (WRITES)

553 MB/s, with almost equally fast write speeds of 501 MB/s. In general, we had no problem juggling different apps, even after we lost count of how many we had open. As always, too, browsing in Internet Explorer felt fast with little to no tilting. Our main concern is with the startup time: it routinely took us 20 seconds or so to boot into the Start Screen. Heck, it takes about four seconds just for the Lenovo logo to appear onscreen early in the boot process.

Lenovo claims the Helix can last up to six hours on a charge with just the tablet, and up to 10 when you add the keyboard dock. As is usually the case, we got less than that on both counts, just because our battery life test (video looping with WiFi on) is particularly grueling. In any event, we got five hours and seven minutes with the tablet alone, which isn't bad when you consider the Surface Pro didn't even make it to four hours in the same test. And again, it's a



LAPTOP	BATTERY LIFE
LENOVO THINKPAD HELIX	5:07 (TABLET ONLY) / 7:27 (WITH DOCK)
SONY VAIO DUO 13	9:40
ACER ICONIA W700	7:13
SONY VAIO PRO 11	6:41
DELL XPS 14	6:18
SONY VAIO T13	5:39
LENOVO IDEAPAD YOGA 13	5:32
DELL XPS 12	5:30
ASUS ZENBOOK PRIME UX31A TOUCH	5:15
TOSHIBA KIRABOOK	5:12
TOSHIBA SATELLITE U845	5:12
ACER ASPIRE TIMELINE ULTRA M3	5:11
TOSHIBA SATELLITE U925T	5:10
LENOVO THINKPAD X1 CARBON	5:07
SAMSUNG ATIV BOOK 7	5:02
ASUS TRANSFORMER BOOK	5:01 (tablet only)
LENOVO THINKPAD X1 CARBON TOUCH	5:00
SONY VAIO DUO 11	4:47
ACER ASPIRE S5	4:35
MSI SLIDEBOOK S20	4:34

taxing test, so you can probably squeeze out more than five hours if you're a little more conservative with your brightness settings than we were. With the dock attached, battery life reached seven hours and 27 minutes, which is more than any Core i5 Ivy Bridge tablet could last on its own. (The keywords being "Ivy Bridge" — who *knows* what Haswell will do for tablets like these.)

SOFTWARE AND WARRANTY

When you spend nearly \$1,700 on a PC — a business PC, at that — you don't expect to be greeted by much bloatware when you boot the thing up for the first time. Fortunately, Lenovo mostly makes good on that promise. All we have here are Skitch, Evernote, Kindle, AccuWeather, the music-streaming service Rara.com and Lenovo Support.

There's also Lenovo Companion, but we recommend you not click on it. Maybe even remove the tile from your Start Screen. What it is, basically, is a portal with shortcuts for Lenovo's blogs and its YouTube channel. You'll also find offers for things like Zinio's magazine store and Norton Internet Security. Sort of a waste of space if you ask us.

All of the various Helix configurations come standard with one year of coverage, though extended warranties as long as five years are available too.

CONFIGURATION OPTIONS

The Helix technically starts at \$1,749; though as of this writing Lenovo's US





The tablet's stylus stows neatly at the top, adorned with red.

site is offering a promotion that brings the entry price down to \$1,574. That comes with a Core i5 processor, though a different one than what's in our unit: an i5-3427U, with a base clock speed of 1.8GHz. Other specs include 4GB of RAM and a 128GB SSD.

Go a step up, and you get the same specs, just with mobile broadband built in. That brings the price to \$1,869 (excluding any promotions that happen to be going on). Finally, going with a Core i7-3667U processor also means you get twice the RAM (8GB), so that's something to consider when choosing which one to buy. Those also have a 180GB SSD, not a 128GB one. These Core i7 models start at \$2,069 (or \$2,249 with broadband). Again, those prices don't include any promotions Lenovo might happen to be running.

THE COMPETITION

The Helix falls into a growing category of 11-inch touchscreen PCs that either have a detachable tablet or can be used in some sort of tablet mode. Now that

Build has come and gone without any new Surface announcements, we're inclined to believe the existing Surface Pro will stick around for at least a little while longer. Like the Helix, that ships with an Ivy Bridge processor and rocks a similarly sized (10.6-inch) 1080p display with a Wacom digitizer for pen input. As we've established, the battery life there isn't as good as on the Helix, and you don't even have the option of a dock with a second battery built in. The Touch and Type Cover keyboards do contribute to a lighter total weight, but they aren't as comfortable as the Helix's keyboard. Neither of those has a satisfactory touchpad, but then again, nor does the Helix, so they're even in that respect. There is one way in which the Surface Pro wins, though, and that's price: the 128GB version costs \$999.

In Lenovo's own camp, there's the Yoga 11S, which is essentially a smaller version of the Yoga 13. (Don't confuse this with the Yoga 11, which has an ARM processor and runs Windows RT, not full Windows 8.) We haven't tested this guy yet, so we unfortunately can't vouch for things like performance or battery life. What we can say definitively is that it's cheaper (\$999 with a Core i5 CPU and a 128GB solid-state drive), but that the specs are also inferior (1,366 x 768 display, no pen input). Just in terms of form factor, it accomplishes many of the same things as the Helix, but it's clearly a consumer device, not a business machine.



“Innovative” is something of a backhanded compliment, at least in this case where the design is somewhat awkward.

When it comes out later this year, Dell’s XPS 11 hybrid will be very similar to the Yoga 11S, and should compete against the Helix too, with a thin, light design and 11-inch, 2,560 x 1,440 display. Until it comes out, though, the closest thing Dell has to offer is the XPS 12, which recently got refreshed with Haswell — something the Helix doesn’t have yet. It’s a bit heavier, even when you factor in the Helix’s keyboard, and Lenovo’s machine is definitely more comfortable to use as a tablet. But the XPS 12 has a comfortable keyboard *and* a reliable trackpad, to boot. So it really depends on whether you need a laptop first and a tablet second, or vice versa.

There’s also the ASUS TAICHI 21, which has dual 1080p screens — one on the lid of the laptop and one on the inside, above the keyboard, where you’d expect it to be. But with Ivy Bridge processors, the battery life is pretty terrible, and the interior screen doesn’t even support touch. You might have been considering this one, but we’d suggest you skip it;

the Lenovo Helix and Yoga both accomplish the whole screen-on-the-outside thing to much better effect.

Now that we’ve breezed through all the major 11-inch hybrids, we’d ask you to at least consider something with a more traditional form factor — i.e., a laptop with a touchscreen. On that front, we’re fond of Sony’s VAIO Pro 11, which offers fast performance and impressive battery life, both thanks to Haswell. It also packs NFC and a 1080p display, along with a sheet battery option and lightweight carbon fiber design — all for a reasonable starting price of \$1,150. The keyboard isn’t as comfy as the Helix’s, though the trackpad is about on par.

WRAP-UP

Even six months after it was originally announced, the ThinkPad Helix is the most innovative Windows 8 tablet hybrid we can think of. In a way, though, “innovative” is a backhanded compliment, at least in this case where the design is somewhat awkward. As it



The Rip n' Flip design lets you present the display both ways.



happens, we enjoy being able to flip the tablet portion over and have the display facing outwards for presentations and such. But the Dell XPS 12 and Lenovo's own Yoga line can do that too, and without a complicated hinge that's difficult to move and likely to cause tangles in your bag. (Don't even get us started on the Helix's bizarre cooling flap.) Moreover, when you use this as a full-fledged laptop, it's actually heavier than competing PCs, even those with larger screens. So consider how often you'll really use this in tablet mode, and then proceed accordingly.

As much as we might mock the Helix's "Rip n' Flip" design, though, this product actually still has several things going for it: a sturdy keyboard, reliable trackpad and a bright 1080p display with wide viewing angles. Also, it accepts pen input, which most of the other devices we've mentioned don't, save

for the Surface Pro. As a standalone tablet, it weighs less than any regular touchscreen Ultrabook, and it even weighs a bit less than other Core i5 tablets, like the Surface. The battery life is impressive too, if only because Lenovo gives us two cells instead of one. So it's a good product in many ways, even if we only end up recommending it to a certain niche (read: business customers who sometimes need a true tablet with pen input — not a laptop that can be used in a clumsy tablet mode). Even so — and stop us if you've heard this before — you'd be better off waiting a few months for a Haswell refresh. Battery life will be even better, and what's more, that lofty starting price will seem a little more justified. **D**

Dana Wollman is Reviews Editor at Engadget, a marathoner, lover of puns and a native Brooklynite.

BOTTOMLINE

**LENOVO
THINKPAD
HELIX****\$1749+****PROS**

- Long battery life
- Inventive, versatile form factor
- Sturdy, comfortable keyboard
- Bright display with great viewing angles

CONS

- Some awkward design elements
- Expensive considering the last-gen components

BOTTOMLINE

The Helix is the most innovative Windows 8 tablet hybrid yet, with dual batteries, a bright display and comfy keyboard to match. Still, it's expensive, especially considering it ships with last-gen CPUs.



RAZER BLADE 14



Razer's third-gen **Blade** gaming laptop offers slim styling and boosted battery life, but will it fit the bill for hardcore gamers?
By Sean Buckley

Most companies refresh their products on an annual basis, carefully timing development and release schedules to match consumer demand, product obsolescence and component upgrades. It's the norm, an expected pattern that most PC, smartphone and tablet manufacturers follow. Razer, however, completely ignores this cycle, as exemplified by its Blade line of gaming laptops — already on its third generation in less than two years. This would be less impressive if the firm wasn't a relative newcomer to the game; before it announced the Blade, Razer was known



primarily for creating keyboards, gaming mice and console controllers. A fully fledged gaming PC was a jarring departure for the humble peripheral maker.

Even so, here we are: reviewing the third-generation Razer Blade gaming laptop. This, too, is a departure from what we've grown to expect from the company — a smaller, thinner device bereft of the previous model's signature Switchblade interface. For some PC manufacturers, a 14-inch machine might be just another SKU in the catalog. But for Razer, it's almost a mark of progress: not only is the Blade popular enough to necessitate successive generations, but also multiple form factors. It's also the company's lowest-priced laptop yet, not to mention its first to include Intel's new fourth-generation CPU — but at \$1,800 for the base model, it still isn't cheap. Read on to see if the new Blade has enough charm to be worth of its lofty price tag.

LOOK AND FEEL

It seems strange to applaud the absence of a feature, yet it's the loss of Razer's Switchblade interface that makes the 14-inch Blade an enticing choice. Yes, the configurable, display-laden touchpad is a unique and charming

It seems strange to applaud the absence of a feature, yet it's the loss of Razer's Switchblade interface that makes the 14-inch Blade an enticing choice.

feature, but cutting it allowed Razer to build the smaller, less complex laptop we have here — and there's grace in that simplicity. Without the flashy interface, the machine instantly becomes more accessible than its predecessors, offering the familiar trappings of mobile computing without the burden of mastering a new input device. Although it's true that

The Blade 14 skips the Switchblade interface for simplicity.





The overall design retains Razer's iconic look and feel.

the machine loses *some* charm by abandoning the technology that inspired Razer to build hardware in the first place, the 14-inch model is ultimately stronger without it, retaining all of the gorgeous design aesthetics of its oversized siblings without the extra bulk.

Speaking of the Blade's classy exterior, not much has changed here — the 14-inch version features the same anodized-aluminum hull as previous models, albeit in a smaller, slightly tweaked shape. The changes are fairly minor: the machine's speakers have been relocated to the keyboard's sides, for instance, and the power button is slightly smaller than on previous models. For better or worse,

these tweaks increase the machine's uncanny (and unabashed) resemblance to the MacBook Pro. This could be a turnoff for stodgy, old PC gamers who are still invested in ancient Mac vs. PC squabbles, but we find the design refreshing — the Razer Blade is one of the few gaming powerhouses that won't draw unwanted attention in public.

Of course, this subtle design comes at a price: connectivity. Peering along the Blade's slim 0.66-inch edges, you'll find just three USB 3.0 ports (two on the left, one on the right), a headphone jack, an AC plug and a solitary HDMI port. That's it. No optical drive, no multi-card reader and no Ethernet. Notable exceptions, but we can't say we're surprised — the



Blade is actually thinner than the apex of a MacBook Air, and weighs just over four pounds. These are understandable casualties, considering the fact that Razer designed the 14-inch Blade twice to ensure it could call it the “world’s thinnest gaming laptop.” Still, gamers hoping to bring the Blade to their local LAN party will want to carry the appropriate dongles and accessories.

KEYBOARD AND TRACKPAD

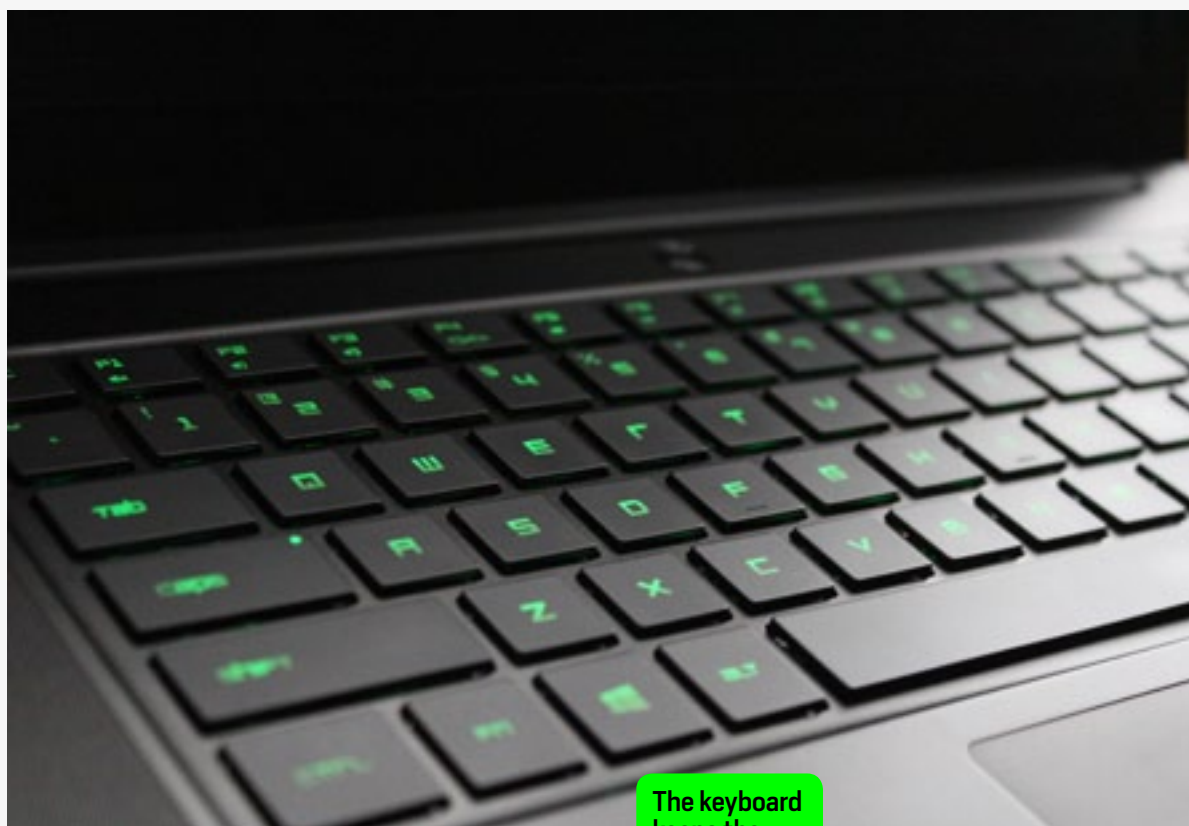
We’ve made a lot of fuss over mousing surfaces in the past, harshly judging many Windows machines for having unresponsive trackpads with poor gesture recognition. Thankfully, this trend of subpar touchpads seems to

be dying off, and the Blade is the latest (and possibly greatest) example of a PC mouse doing it right. This smooth, low-friction surface is easily one of the most responsive and tactilely satisfying trackpads we’ve seen on a Windows device. It’s roomy, too: a large, matte black sensor provides ample room for multi-touch Windows 8 gestures, most of which it recognizes instantly and without error.

We did hit a few minor hiccups, however — if our digits wavered too much during two-finger scrolling, the pad would mistake the flinch for zoom pinch, distorting our view. It was also quick to take notice of low-hanging thumbs, unexpect-

The matte touchpad is responsive, tactile and roomy.





The keyboard keeps the last-gen style and still feels great.

edly moving the cursor while we typed (more on that in a moment). We're hesitant to restate similarities between the Blade and the MacBook Pro, but the machine's blatant homage to Apple left our sense memory wanting for Cupertino's clickable mousepad — the Blade's underlying physical buttons just didn't feel right by comparison. That said, the left and right clickers are tolerable, but not quite as satisfying as the mouser's ultra-sensitive touch surface. We'll admit they grew on us over time, but they initially felt slightly mushy.

The keyboard, however, feels *just right*. With the exception of retooling a few key sizes and tweaking the lettering a tad, Razer didn't make any significant changes to the third-generation Blade's sea of alphabet islands — this is the same chiclet keyboard we saw *twice* last year. Unsurprisingly, the keyboard

is still incredibly solid, offering a firm and tactile response, low-resistance key depressions and as many as 14 simultaneous presses (for the gamer concerned about anti-ghosting). Our only complaint stems not from the keyboard itself, but from the trackpad: the aforementioned touch surface is so

sensitive we occasionally triggered it by accident while typing. It would have been nice to see a touchpad-lock Fn key added to the keyboard's bag of tricks.

DISPLAY AND SOUND

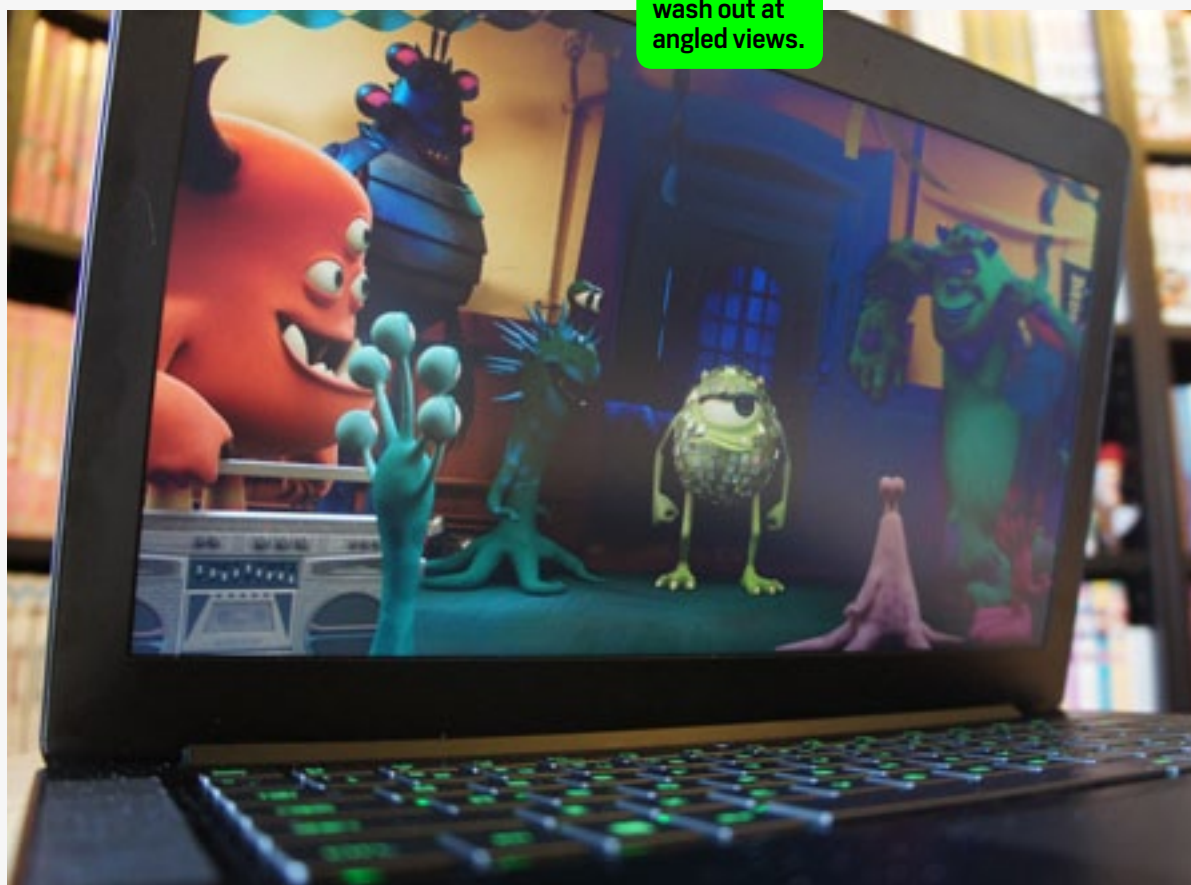
Razer's made a habit of pairing its hardware with middling, but not-quite-terrible displays — an unfortunate pattern. Mirroring its predecessors, the new Blade offers a screen that's just OK, suffering no major ailments of banding, low contrast or particularly bad color reproduction, but still failing to dazzle. Looking at the 1,600 x 900 panel straight on provides a clear enough picture, but even slight adjustments to the viewing angle can cause washed-out images or significant darkening. Colors can appear off when viewed from sharper horizontal angles as well. Admittedly, most Razer customers will be using the screen from its optimal viewing angle and won't experience any nagging



issues, but its matte finish begs for a panel that can take advantage of wider viewing angles, and that's just not what we're getting here.

Flanking the keyboard, the Blade's speakers offer a clear distinction between left and right audio channels. This is probably the only thing that truly sets them apart from the previous generation's audio offering, which piped average (if a bit muted) audio through a speaker configuration providing little in terms of stereo separation. As far as we can tell, the smaller Blade doesn't sound too different — audio is clear and undistorted, but it lacks a richness and warmth, falling flat on busy tracks with deep bass or complex harmonies. On the plus side, the speakers do seem to be a bit louder than Razer's last-gen laptop, and they don't distort at higher volumes either.

The display is good, but tends to wash out at angled views.



PERFORMANCE AND BATTERY LIFE

Look at the Razer Blade's specification history, and you'll notice a steady trend: each successive iteration has had Intel's latest chipset at its core. The 14-inch Razer Blade is no exception, sporting a 2.2GHz (3.2GHz with Turbo Boost) Intel Core i7-4702HQ Haswell processor, the company's fourth-generation Core CPU. It's not just the latest and greatest silicon available; it's also the processor Razer's been waiting for — with a modest reputation for increasing laptop longevity, Haswell is the gaming notebook's best chance at *finally* achieving a workable runtime. After seeing what the chipset did for MSI's gargantuan GT70 Dragon Edition (spoilers: it doubled its battery life versus the Ivy Bridge configuration), we couldn't wait to see what it could do for a more modest machine. We weren't disappointed.

Razer's 14-inch Blade survived Engadget's standard battery test for almost six and a half hours — not a huge stretch of productivity for an Ultrabook, but an unprecedented runtime for a high-end gaming laptop. Razer's machine now lasts as long as a 2012 13-inch MacBook Air, and out-



BENCHMARK	PCMARK7	PCMARK VANTAGE	3DMARK06	3DMARK11	ATTO (TOP DISK SPEEDS)	BATTERY LIFE
RAZER BLADE 14-INCH (2.2GHZ CORE i7-4702HQ, GEFORCE GTX 765M)	5,837	19,505	19,815	E6,364 / P4,161	546 MB/S (READS); 253 MB/S (WRITES)	6:24
MSI GT70 DRAGON EDITION (2013) (2.4GHZ CORE i7-4700MQ, GEFORCE GTX 780M)	6,111	20,250	N/A	E10,519 / P7,416	1.19GB/S (READS); 806 MB/S (WRITES)	4:34
RAZER BLADE 2.0 (2.20GHZ CORE i7-3632QM, GEFORCE GTX 660M)	N/A	17,120	15,876	N/A	N/A	3:29
RAZER EDGE PRO (1.9GHZ CORE i7-3517U, NVIDIA GT 640M LE 2GB)	4,949	13,536	10,260	E2,507 / P1,576	409 MB/S (READS); 496 MB/S (WRITES)	3:40
SAMSUNG SERIES 7 GAMER (2.30GHZ CORE i7-3610QM, GEFORCE GTX 675M)	N/A	11,515	21,131	N/A	N/A	2:11

lasts Apple's existing 13-inch Retina MacBook Pro. We took the machine through a few less-controlled scenarios and easily made it through several four-hour-plus stints of active work (involving several web browsers, word processors, chat clients and constantly updating Google documents) without a

hitch. It's almost a shock — thanks to Haswell, gaming machines are now getting respectable battery life for normal computing tasks.

It's certainly a boon to know that the Blade has the longevity to moonlight as a workhorse, but let's be honest: we're really here to see how it



plays games. We ran the rig through our standard gamut of PC games, and found a capable machine that might be straddling the line between high fidelity and high frame rates. Take *BioShock Infinite*, for instance: tuned to ultra-high quality, the Blade has no issue clocking a steady 35 frames per second in the flying city of Columbia, but this frame rate rides only just above the 30 fps minimum most PC gamers demand. More demanding titles, like *FarCry 3* and *Crysis 3* struggled to average a solid 30 fps on ultra quality — demanding visual concessions to score more consistent frame rates. We dialed both games down to medium and scored 60 and 44 fps, respectively.

On the other hand, *The Elder Scrolls V: Skyrim* bounced between 45 and 100 fps averages (outdoors and in dungeons, respectively) at ultra-high quality, and a maxed-out *Battlefield 3* held a steady 39 fps. Even *The Witcher 2*, a game known to be somewhat punishing, ran at a respectable 44 fps on High (with Ubersampling disabled). Make no mistake, the Blade is a fast and powerful machine, but it's already struggling to maintain maximum fidelity on some of today's most demanding titles. That's not a *bad*

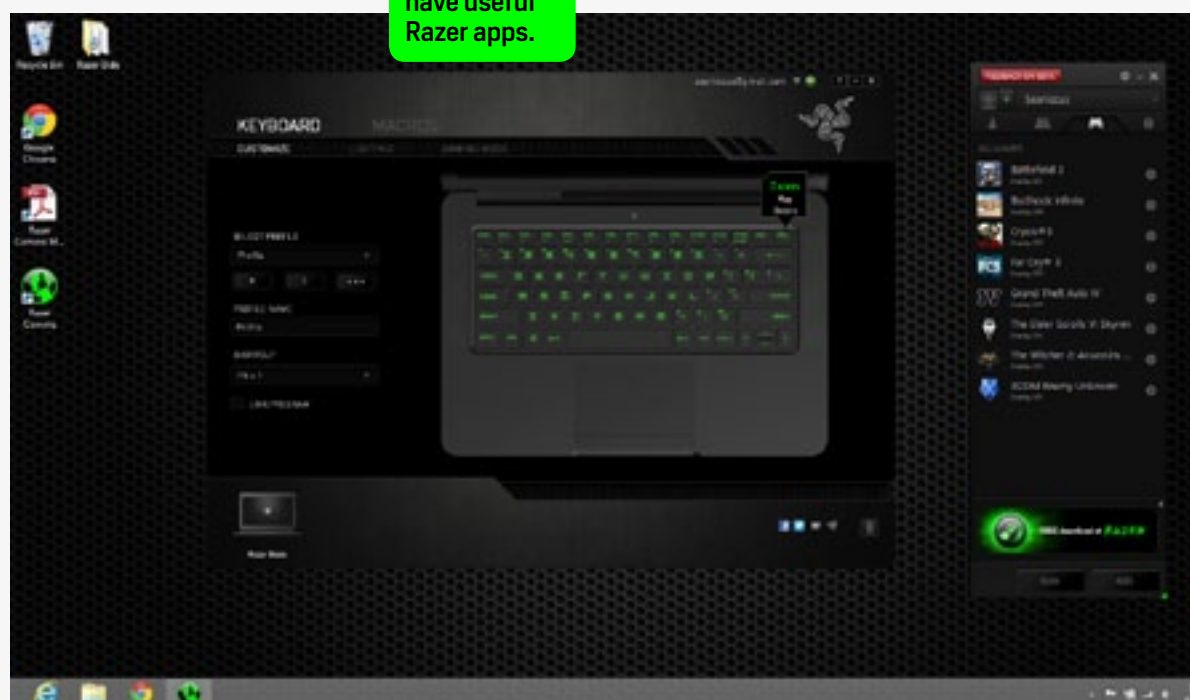
thing, but it's worth bearing in mind for gamers who insist on dialing their games up to 11. As for the rest of us? We were hard-pressed to find a game that couldn't reach a happy high / middle ground at the Blade's native 1,600 x 900 resolution.

The games took a much heavier toll on the Blade than our day-to-day work cycle. Running *BioShock Infinite* on ultra quality killed the laptop's battery in a little more than an hour; Haswell's power management is *good*, but it isn't *that* good. It's just as well, gameplay tends to make the laptop a little too warm to hold comfortably on one's lap — the Blade's slim profile simply doesn't disperse GPU heat efficiently.

SOFTWARE

There's nothing worse than booting up a brand-new computer only to find it riddled with intrusive and unnecessary bloatware — thankfully, you won't find *any* on the 14-

The Blade is bloatware-free, but does have useful Razer apps.



inch Razer Blade. It's one of our favorite things about Razer hardware. No trials, no unwanted software bundles and no garbage: just a clean, lightweight Windows 8 installation. Razer did install some of its own software of course, including its standard Synapse device-management package and a beta version of Razer Comms, an instant-messaging client. We could hardly ask for anything less.

CONFIGURATION OPTIONS AND THE COMPETITION

Folks looking at Razer's 14-inch Blade will find its configuration options fairly limited: each of its three variants share the same core specs: a 2.2GHz Intel Core i7-4702HQ CPU, 8GB of RAM and NVIDIA's GTX 765M GPU — the only difference between SKUs is storage space. Our \$2,000 review unit came equipped with a 256GB solid-state drive, which can be downgraded to 128GB for a \$200 savings or upgraded to 512GB for \$300. Although it's not *technically*

The slim profile didn't leave room for Ethernet jacks.



Think of it as the Chromebook Pixel of PC gaming.

the same machine, Razer also offers the Blade Pro, a 17-inch version featuring the Switchblade interface and a slightly faster 2.4GHz Intel Core i7-4700HQ processor — that starts at \$2,200 with similar price adjustments for SSD upgrades. Slim, yet expensive pickings.

Fortunately, there are a few alternatives available for Haswell-hungry gamers. Dell's Alienware 14, for instance, can be kitted out with a Core i7-4700MQ CPU, 8GB of RAM, an NVIDIA GTX 765M GPU and a much larger 750GB HDD for \$1,350. If that doesn't fit the bill, Dell offers half a dozen different configurations for the 14 that can undercut *and* outperform Razer's kit. It isn't the only 14-inch alternative available either: MSI's own \$1,300 machine, the GE40, offers a Core i7-4702MQ CPU, 8GB of RAM, an NVIDIA GeForce GTX 760M GPU and a

750GB HDD. If you're simply after raw power, however, consider the MSI GT70 Dragon Edition 2 — it has enough oomph to run circles around the competition, but it isn't cheap: this \$2,800 model is the only configuration available.

There is *one more* comparison we'd like to bring up, but take it with a pinch of salt: Apple's MacBook Pro. Please, hold your fire; we aren't suggesting that the MacBook Pro is a



reasonable alternative to Razer's premium gaming laptop — we're suggesting that Apple users might want to take a look at the Blade. For roughly the same price as a current MacBook Pro, the Blade offers the latest silicon, a better GPU and a familiar unibody design. Tit for tat, the Blade only loses on two fronts: it has significantly less storage space and its trackpad isn't *quite* as good as Apple's clickable mouser. If you simply can't wait for Apple's own Haswell refresh, the Blade is the next best thing.

WRAP-UP

Razer's 14-inch Blade is almost everything we wanted out of the company's first gaming laptop: a smaller, less-expensive machine with longer battery life, more power and a shockingly attractive chassis. These elements lift the machine's stature, defining it not only as a solid gaming machine, but also as a great Windows laptop in general. It's

an enthusiast laptop, yes, but one we'd feel comfortable recommending to non-gamers, too.

That said, the Blade is *still* a tough sell for gamers on a budget. Think of it as the Chromebook Pixel of PC gaming — it represents an ideal machine, but as a luxury item it's not a reasonable choice for the average consumer. This issue is compounded further by the fact that its internals ride the edge of modern gaming's maximum visual requirements, making it not only more expensive than its direct competition, but less future-proof, too. Even so, the Razer's 14-inch Blade is its best gaming laptop yet, and if you can stomach the caveats, it's a completely worthwhile machine. **D**

Sean a lifelong gamer, a comic-book nerd, and an Eagle Boy Scout. He also writes for Engadget. What else is there to know?

BOTTOMLINE

RAZER BLADE 14

\$1,800+



PROS

- Fast and powerful
- Excellent trackpad
- Stellar battery life (for a gaming machine)
- Slim, compact and thoroughly attractive

CONS

- Middling screen and audio quality
- More expensive (and less powerful) than other machines

BOTTOMLINE

Razer's 14-inch Blade is its most powerful laptop to date, not to mention its most affordable. Strong internals, an attractive build and long battery life make it a solid option for gamers and non-gamers alike.



SAMSUNG GALAXY MEGA 6.3



The gargantuan **Galaxy Mega 6.3** looks to offer a big-screen advantage to GS4 fans, but lacks a few bells, whistles and tablet-style features
By Brad Molen

Godzilla, Frankenstein's monster and Bigfoot are mythical creatures that don't exist (although you might dispute the latter). But now, an equally beastly smartphone — one seemingly designed specifically for them — is available to buy. The Samsung Galaxy Mega is a 6.3-inch woolly mammoth of a handset, and it reigns as the largest of its kind, even if only for a brief period of time; the title will soon be taken over by the Sony Xperia ZU once it hits the market. We were curious to see how a phone of its size would hold out during regular use, so our friends



at Negri Electronics — an online retailer that currently sells the Mega for \$570 or \$600 (8GB and 16GB, respectively) — were kind enough to let us take one for a test drive for a few days. Is the phone's magnitude a benefit or hindrance to the user experience? Is it even worth considering if you don't need the largest possible screen?

HARDWARE

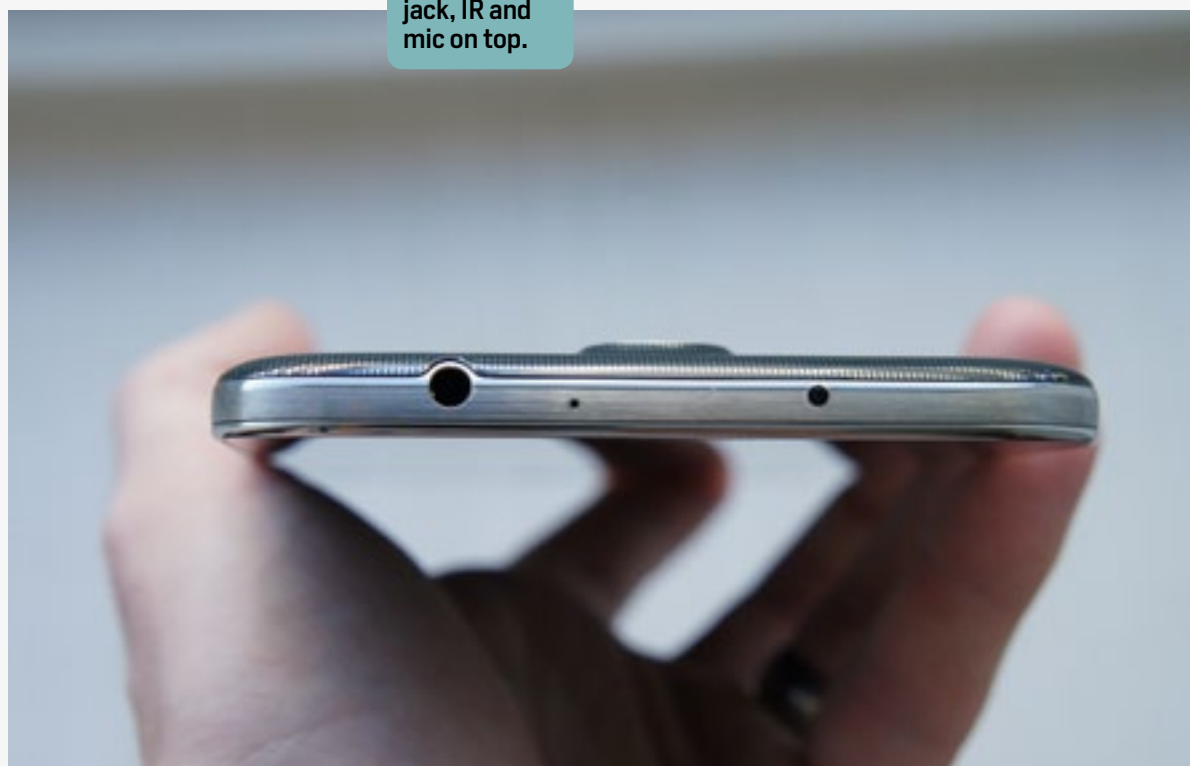
If this review taught us nothing else, we at least discovered that the Mega makes for an amazing icebreaker in elevators, parties and anywhere else. The odds of hearing "Wow, that thing's a phone?" were, expectedly, incredibly high. Of course, novelty isn't typically a factor we consider when reviewing a phone, nor should it be; perhaps a few folks may think of this as an opportunity to cure their shyness, but we believe it's far more important to judge a smartphone by its actual merits rather than perceived social implications.

So how huge is the Mega, exactly? For the sake of comparison, let's toss out a few numbers. This new king of the hill measures in at 167.6 x 88 x 8 mm (6.60 x 3.46 x 0.31 inches) and weighs an outlandish 7.02 ounces (199g); it's much wider and taller than

We were only comfortable holding the Mega when two hands were involved.

the Galaxy Note 2, which in contrast is 151.1 x 80.5 x 9.4mm and 6.35 ounces. It definitely doesn't compare to the 5-inch Galaxy S 4, which comes in at 136.6 x 69.8 x 7.9mm and weighs 4.59 ounces. Indeed, the Mega is no lightweight, nor is it for the tight-pocketed or weak-armed. I found that when holding the Mega to my ear, my phone conversations became increasingly uncomfortable as time progressed, and despite the fact that it fits snugly in your average jeans pocket, it's a buzzkill once you sit down. Conversely, the phone fares decently in loose-fitting pants pockets, but it's much more likely to fall out when you're sitting.

As on the GS4, there's a headphone jack, IR and mic on top.



Even if you're not dissuaded by those dimensions, you'll be far more comfortable using the Mega with two hands. Sure, we were able to palm the device in one hand for reading, browsing or other similar activities, but our thumbs couldn't reach the back button located on the bottom-right corner of the phone. In order to make the phone work this way, we noticed that we had to hold the phone closer to the bottom, an action that was at odds with its center of gravity and significantly increased our chances of dropping it. Needless to say, it wasn't an ideal solution, which means the only times we were truly comfortable totting it around were when

two hands were involved.

The Mega uncannily mimics the original Galaxy S 4's overall design to the point that it essentially looks like someone in Samsung's factory zapped it with Rick Moranis' machine in *Honey, I Blew up the Kid*. That is, unless you're looking really close. First, let's discuss how the two phones are the same. The overall button, port and soft-key layout is near-identical: volume on the left, micro-USB on the bottom, power on the right and 3.5mm headphone jack, IR blaster and noise-canceling mic on the top. On the back, the camera and LED flash are arranged vertically near the top and there's a speaker grille on the bottom-left corner. It's also avail-

On the back you'll find the 8-megapixel camera and LED flash.



SPECIFICATIONS	SAMSUNG GALAXY MEGA
DIMENSIONS	167.6 X 88 X 8 MM (6.60 X 3.46 X 0.31 IN)
WEIGHT	7.02 OZ. (199G)
SCREEN SIZE	6.3 INCHES
SCREEN RESOLUTION	1,280 X 720 (233 PPI)
SCREEN TYPE	SC-LCD
BATTERY	3,200MAH (REMOVABLE)
INTERNAL STORAGE	8/16GB (4.8GB USER-ACCESSIBLE)
EXTERNAL STORAGE	MICROSDXC (UP TO 64GB)
REAR CAMERA	8MP, AF, LED FLASH,
FRONT-FACING CAM	1.9MP
VIDEO CAPTURE	1080P, 30 FPS (FRONT AND BACK)
NFC	YES
RADIOS	DEPENDS ON MARKET -- SEE HARDWARE SECTION
BLUETOOTH	V4.0 WITH APTX
SOC	QUALCOMM SNAPDRAGON 400
CPU	1.7GHZ DUAL-CORE KRAIT
GPU	ADRENO 305
RAM	1.5GB
ENTERTAINMENT	MHL 2.0, DLNA, IR SENSOR
WIFI	DUAL-BAND, 802.11A/B/G/N, WIFI DIRECT
WIRELESS CHARGING	NO
OPERATING SYSTEM	ANDROID 4.2.2, TOUCHWIZ UI

able in the same two colors (white and black) with straightened edges, a glossy plastic chassis and the same checkerboard pattern. Among the few variations are a much larger battery and a double-decker microSD / micro-SIM slot setup. It's also missing a sensor on the front, and the power button along the edge is a bit closer to the middle of the device than on the original GS4.

As much as we'd like to see the specs rival those found on the Galaxy S 4, Samsung didn't craft the Mega with the high-end buyer or power user in mind — our guess is that the Korean manufacturer will pull out all the stops with the Note III for that particular demographic. That said, it still makes for a solid mid-range device: it wields a 1.7GHz dual-core Snapdragon 400 processor, 720p LCD panel, 8-megapixel rear camera, 3,200mAh battery, NFC, IR, MHL 2.0, 1.5GB RAM and numerous other notable specs listed in our table.

The unit we received from Negri is the I9200, which features quad-band HSPA+ (850 / 900 / 1900 / 2100) and quad-band GSM / EDGE; the I9205 adds penta-band Cat 3 LTE (800 / 850 / 1800 / 2100 / 2600), to be specific. Users of the latter model won't enjoy faster data speeds in the US, but at least it will make for an enjoyable experience in other countries around the globe.



DISPLAY

When we mentioned that the Mega uses a 720p display, you likely already assumed that it would offer a horrible viewing experience — pixel-density aficionados will scoff at the phone's 233 ppi, and indeed, we had the exact same expectation going into this review. However, it's not actually as bad as we had originally imagined. If you look close enough at the screen, the pixels definitely come out to say hello, but larger screens are also designed for longer-distance viewing than your run-of-the-mill 5-incher. So, from an ideal distance, the Mega is surprisingly decent. We would never turn down a 1080p display when offered to us, of course, but our overall experience wasn't nearly as disappointing as anticipated.

On the contrary, the bright LCD panel presented us with an unusually vibrant lock screen that always took us off-guard whenever we turned it on. We never felt

The display is only 720p, but its vibrant LCD popped out at us.

like we had to crank up the display's brightness — even in direct sunlight, which was a huge plus — and we typically found ourselves happy keeping it at the halfway mark. Lastly, viewing angles were superb. On a more sullen piece of news, the Mega doesn't feature a Wacom digitizer like the Note series, so your attempts at using an S Pen here will be fruitless.

SOFTWARE

As long as this isn't your first time at the Samsung rodeo, the Galaxy Mega user experience won't require much getting used to; it's TouchWiz through and through, which means the UI will look basically identical to whatever Samsung smartphone you purchased two years ago. The main difference between now and then, of course, is the inclusion of Android 4.2.2 Jelly Bean and the additional features it brings.

With its size and viewing distance, the 720p display works well.



Although the user interface is generally the same on the Mega as it is on the Galaxy S 4, the former's repertoire of Samsung-branded features is much more limited here. Whether you consider that good news or bad is completely up to you, but the Mega lacks air gestures and several smart features such as rotation, pause and scroll. Additionally, it takes advantage of Smart Stay, Driving Mode, Safety Assistance and Air View. You won't find any option to change the screen's touch sensitivity here, though we have a feeling that this will come as a frustration to only a select few users.

Sure, the Mega's firmware is incredibly similar to what you'll find on the GS4, but Samsung has at least tweaked it to take advantage of the larger screen size. While we still consider this device a smartphone, the line between the phone and tablet categories is blurred

The Mega has Android 4.2 and TouchWiz, but is missing many of the GS4's signature features.



when you consider the way most apps appear on it.

For instance, a significant number of third-party apps (not to mention a few native ones) behave much like they do on a tablet — Engadget's mobile app, S Planner and plenty more are this way — and even the home screen rotates into Landscape Mode when you tilt it. Frankly, the Mega seems to have an identity crisis. On the one hand, there's no shortage of standard smartphone apps (albeit, with much more content fitting on the screen). Still, other apps look normal in portrait mode, but then transform into their tablet versions as soon as you throw it into landscape

While the Mega may look a lot like the original GS4 (hardware and firmware), Samsung didn't bestow its full litany of smart features onto the device. You can take advantage of Smart Stay, but Smart Rotation, Pause and Scroll aren't offered; Air Gesture isn't there; and a few GS4 camera modes didn't make the cut either (we'll discuss this



in more detail in the next section). This may be in part due to the less powerful dual-core CPU inside, or perhaps it's just Samsung's way of ensuring it won't cannibalize GS4 sales. Either way, many of the missing features aren't essential to maintaining a good user experience — heck, we turned most of them completely off during our GS4 review because they were a huge drain on resources — so this won't be a dealbreaker for most potential buyers.

Finally, the Mega also offers Safety Assistance, Drive Mode and one-handed operation settings, which condenses the keyboard, dialpad and calculator. It doesn't resolve our inability to reach all of the capacitive keys, and we must admit that the two-handed typing experience on the Mega's full-sized keyboard is superb, thanks to the size of each individual key and the space in between them.

CAMERA

It's no secret that we've historically been fans of Samsung's work in the imaging department, and we don't have any reason to be disappointed in the company's choice of an 8-megapixel sensor in a mid-range phone like the Mega. The shots can definitely hold their own amongst similar devices — the still-relevant Note 2, for instance, uses an 8-megapixel camera as well.

One obvious benefit about using a camera on such a large device is the huge viewfinder (especially when you choose 16:9 mode, which takes images

at six megapixels), but we noticed this can be a double-edged sword if you're not careful; with big phones (and tablets) comes a greater chance of taking a blurry shot. Fortunately we were able to avoid this pitfall in most circumstances — all it involves is a little extra concentration. We'd love the option of a hardware shutter key in these situations, but such things have become increasingly rare in the Android universe.

Photos snapped in the daytime were much more detailed than we originally anticipated, and colors were mostly accurate, too, with some slight oversaturation in others. However, shots taken in direct sunlight resulted in washed-out hues. Most images turned out well, but we had a few issues with exposure and the camera's dynamic range capabilities. Specifically, it would favor either shadows or bright areas — but not both at the same time. The Mega's HDR feature helps ease the pain a little, but you're missing crucial seconds switching back and forth between modes. And while our review unit kept close to the GS4's camera interface, Samsung opted to ship the Mega without Drama Mode, Eraser and dual-camera features — the most endearing of the bunch, if you ask us.

Low-light pictures were a mixed bag as well. Most shots were a bit noisy, but we were satisfied with the amount of light we were able to capture in city shots with the phone's f/2.6 aperture lens. The Mega's night mode predictably snatched up more errant photons at the expense





The 8MP cam favors dark and light, loses some mid-range.

of an increased level of noise; we also snapped way too many blurry images that ultimately had to be tossed out, since smooth nighttime pics require an incredibly steady set of hands.

From a sample video taken in MP4 format at 1080p, the Mega's top resolution, with a bit rate of 17 Mbps and frame rate of 30 fps, we actually came away quite impressed with the overall quality. The footage is well-detailed, colors are accurate, motion is quite smooth and the mics did an amazing job of picking up the audio we wanted and filtering out background noise.

PERFORMANCE AND BATTERY LIFE

The Galaxy Mega mainly shows its mid-range status with its processing power, as it possesses a dual-core Qualcomm Snapdragon 400 (MS-

M8930AB). Granted, it takes advantage of a 1.7GHz clock speed and lower pixel count (when compared to today's 1080p flagships, at least), so you won't see much lag or delay with the majority of your work.

Given that the Mega shares some common software traits with the Galaxy S 4, while featuring a similar (yet higher-clocked) Snapdragon 400 chipset to the HTC First, we chose these two models for performance comparisons. As you'll see in our chart, it bests the First in nearly every category — with most scores clearly showing the advantage in clock speed — and only loses in Vellamo. Strangely enough, the Mega wound up with a better score in this same test than the Snapdragon 600-powered GS4, while the latter phone whopped its 6.3-inch cousin in every other cat-



BENCHMARK	SAMSUNG GALAXY MEGA	SAMSUNG GALAXY S 4 (SNAPDRAGON 600)	HTC FIRST
QUADRANT 2.0	7,192	12,684	5,952
VELLAMO 2.0	1,993	1,903	2,239
ANTUTU 3.2	13,627	26,143	11,267
SUNSPIDER 1.0 (MS)	769	632	1,647
GLBENCHMARK EGYPT 2.5 HD OFFSCREEN (FPS)	16	39	14
CF-BENCH	13,342	28,111	8,208

SUNSPIDER: LOWER SCORES ARE BETTER

egory. Comparisons aside, the benchmarks give us a solid indication that you're not going to run into any workload-related problems on the Mega.

We also discovered that gaming was a joy on the Mega: who would've thought that combining an Adreno 305 GPU with a huge screen would make for such a great experience? The speaker sounds loud and crisp, and we were able to crank out more than enough noise from our movies and music to stay happy. Even though the earpiece was a little quieter, it was still sufficient. All of our calls went through perfectly, with no drops or hiccups. GPS performance was also more than decent, though on a couple occasions, when traveling through the sparsely populated countryside, we noticed that the little-blue-dot-that-could was having some difficulty keeping up with us. This usually remedied itself after a

few minutes (perhaps after we hopped onto a different tower), but it was a good thing we didn't have an immediate need for a change in direction. That tiny frustration aside, the performance is exactly what we'd hope to see on any mid-range Samsung phone.

Finally, if a phone is going to have a 3,200mAh battery (the Mega is second in size only to the Motorola Droid RAZR Maxx), we expect it to hold a charge longer than nearly anything else on the

If a phone is going to have a 3,200mAh battery, we expect it to hold a charge longer than nearly anything else on the market.



market. The Mega didn't disappoint: although we were unable to put the device through our typical video rundown endurance test, we attended Microsoft's Build 2013 event during our review period, and were able to push the phone through 17 straight hours of heavy use before we needed to recharge — on both days we were in attendance. This means that you should easily get a couple days of less-intense use.

WRAP-UP

The Galaxy Mega is a very solid mid-range device, but the phone's make-or-break trait is — you guessed it — the size. If you prefer (or require) the ability to use your smartphone one-handed most of the time, you're not going to have a satisfactory experience. We would love to see the option of using an S Pen as a sort of compromise to persuade fence-sitters, but sadly its ab-

sence will act as more of a detriment to the phone's chances of success.

Even though the Mega was made to satisfy one group of people — anyone who loves or needs an excruciatingly large smartphone — we admire Samsung's willingness to dip its toes in the water and try new form factors. If nothing else, the Mega will mean something even more significant to its manufacturer than sales metrics: it's a forerunner for the company's future prospects in the "large phone" category, and a way for Samsung to figure out how to do an even better job with the upcoming Galaxy Note III. We figure Bigfoot will be just as happy with that device when the time comes. **D**

Brad is a mobile editor at Engadget, an outdoorsy guy, and a lover of eccentric New Wave and electro. Singer and beatboxer.

BOTTOMLINE

SAMSUNG GALAXY MEGA I9200

\$570+



PROS

- Huge screen, decent display quality
- Sensational battery life
- Good video capture
- Louder sound than competing phones

CONS

- One-handed operation nearly impossible
- Some GS4 features are missing

BOTTOMLINE

The Mega is a respectable mid-range device, but it's too large for anyone who wants to sometimes use a phone one-handed.



THIS IS YOUR LIFE

Facebook and the
Business of Identity
By Donald Melanson



Mark Zuckerberg
talks Timeline at
San Francisco's
f8 conference.

Timeline



“THE STORY OF YOUR LIFE.”

With that phrase, Facebook CEO Mark Zuckerberg introduced the company’s new Timeline profile in the fall of 2011. The social network’s original profile page, he explained, was the first place where most people “felt safe expressing their real self” on the internet, but it was only the “first five minutes of your conversation.” A major redesign in 2008 extended that to “the next 15 minutes.” Timeline, though, was the “next few hours.” Your true self, in full.

To illustrate the point, Zuckerberg went on to show a promotional video that put **THIS IS YOUR LIFE** to shame by





Facebook's news feed, the heart and soul of the user experience, is shown in its various device layouts.

recapping one man's life from his own birth to the birth of his child (and then some) in just over a minute. Facebook has always wanted to be your online identity — your internet, in many ways — but it was now also bringing something else to the fore that once had a tendency to fade into the background: your memories.

Facebook has been collecting and neatly packaging information about you from the start, but that information has tended to mostly consist of that which accumulated since you began using the social network, making your Facebook identity more a reflection of who you are now — and, perhaps, who you were in college — than who you were pre-Facebook. With Timeline, Facebook was actively encouraging people to fill in the gaps. By default, it adds the date of your birth as the first “life event” on your Timeline. From there, you can add dozens more from the meaningful to mundane, complete with photos that are featured more prominently in your Timeline — itself Facebook's biggest visual overhaul to date. Most people likely won't fill in much beyond the basics, but every detail is another data point — one that's stored and slowly helping to build a better profile of who you are and what you like.

But your Facebook profile isn't simply a curated page of photos and personal information — the “first five minutes” Zuckerberg talked about. Those “next few hours” are increasingly being built based on your daily behavior both inside and outside of Facebook. And by extension, the more you share with Facebook — directly or indirectly — the more



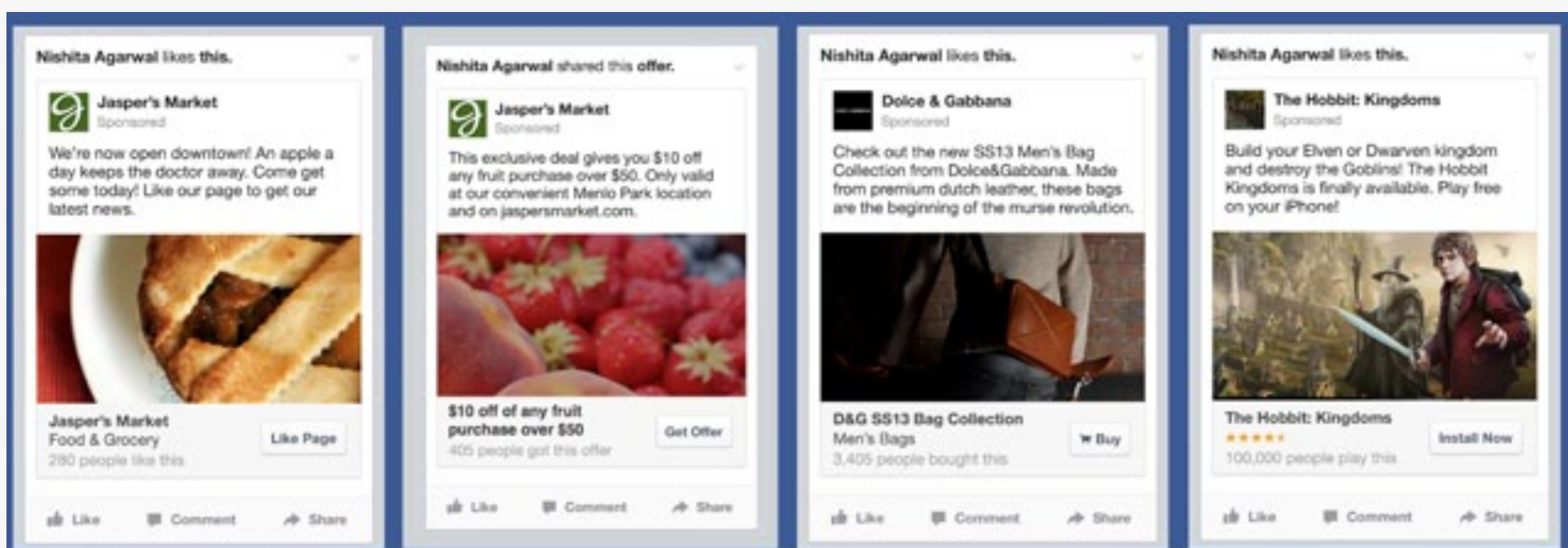
it becomes your de facto internet identity, containing a wealth of information about you that allows for more targeted advertising and entirely new products and services driven by that sheer volume of personal data. Indeed, for many it is already inextricably linked to their daily lives.

CONNECTED, TARGETED AND FRICTIONLESS

Soon after the launch of Timeline, Facebook began integrating more and more third-party services. Apps like Gogobot and TripAdvisor brought your travel activity to your profile; Foodily brought your favorite recipes; Goodreads brought your reading habits; Nike and Endomondo brought your exercise routines; and Foursquare brought your check-ins from wherever you saw fit to check-in. A partnership with OPOWER and the National Resources Defense Council lets some users connect their homes to their Facebook profiles and share their energy use. Facebook users can choose which apps appear on their Timeline and which friends can see them, but it's all information that's tied to your Facebook identity once you link the app to your account, and it's continually updated whether you are directly using Facebook or not.

Of course, Facebook is hardly alone in this realm. Google, Twitter, Amazon and others are all also competing to be your single sign-on internet identity, offering respite from the need to create individual accounts and passwords for every website and application you use. Likewise, they collect an enormous amount of informa-

Monetizing ads, as well as personalizing the pitch to possible ad-clickers, has been one of Facebook's strong suits.



tion about you through the use of their own services, be it your search habits or your propensity to share photos of your lunch. The differences are in the ways they use the information they gain about their users, and the degree to which they test their trust.

Not all that long ago, there was an uproar about ads in Gmail. Google began “reading” your email and displaying targeted ads next to your messages. An email thread between you and a friend or family member planning a trip, for instance, would result in ads for airfare or hotels. Even your location could be taken into account, resulting in a new set of ads when you end up at your destination. That tested the trust of Gmail users, and indeed Microsoft brought up the issue again more recently in its “Scroogled” ad campaign that criticized Google’s targeted advertising practices, but most users have stayed and accepted (or learned to ignore) the ads framing their inboxes.

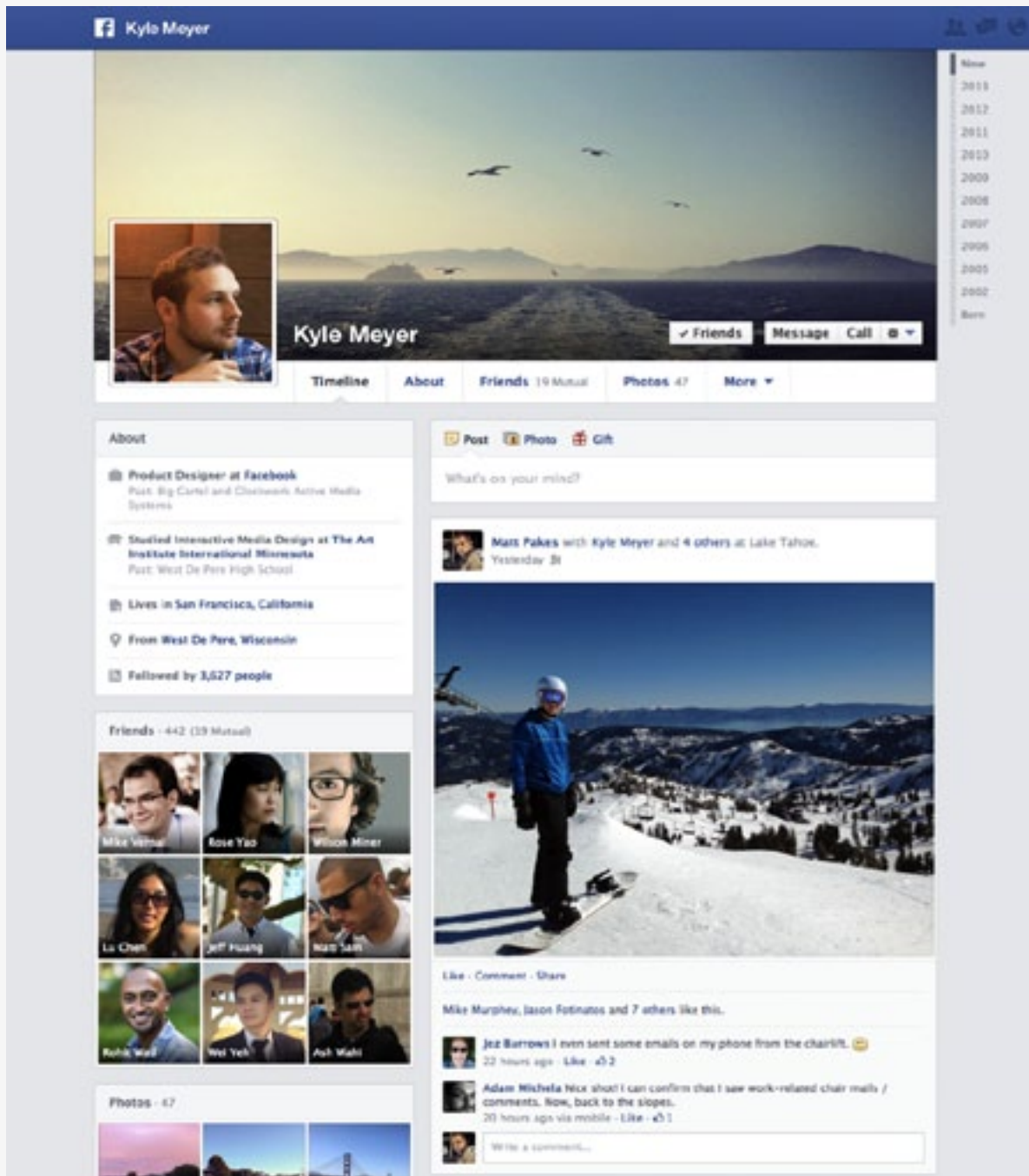
Facebook is likewise using your information to deliver more targeted advertising, but it goes one step further. It’s using your information to also publicly display ads to your Facebook friends — ads that can imply an endorsement on your part. Clicking the “Like” button on the website of a restaurant you’re thinking of trying out, for instance, doesn’t simply add that restaurant to your profile and

news feed; it allows Facebook to show an ad (or a “Related Post”) to your friends that says you like the restaurant — even if you’ve since changed your opinion after actually going to it.

Even information that doesn’t appear on your Facebook profile can influence the ads you see. One of the more surpris-

Facebook’s iconic “Like” pictogram greets visitors at its Menlo Park, Calif., campus building.





In 2011, Facebook launched Timeline, allowing the possibility of life-tracking rather than just random moment tracking.

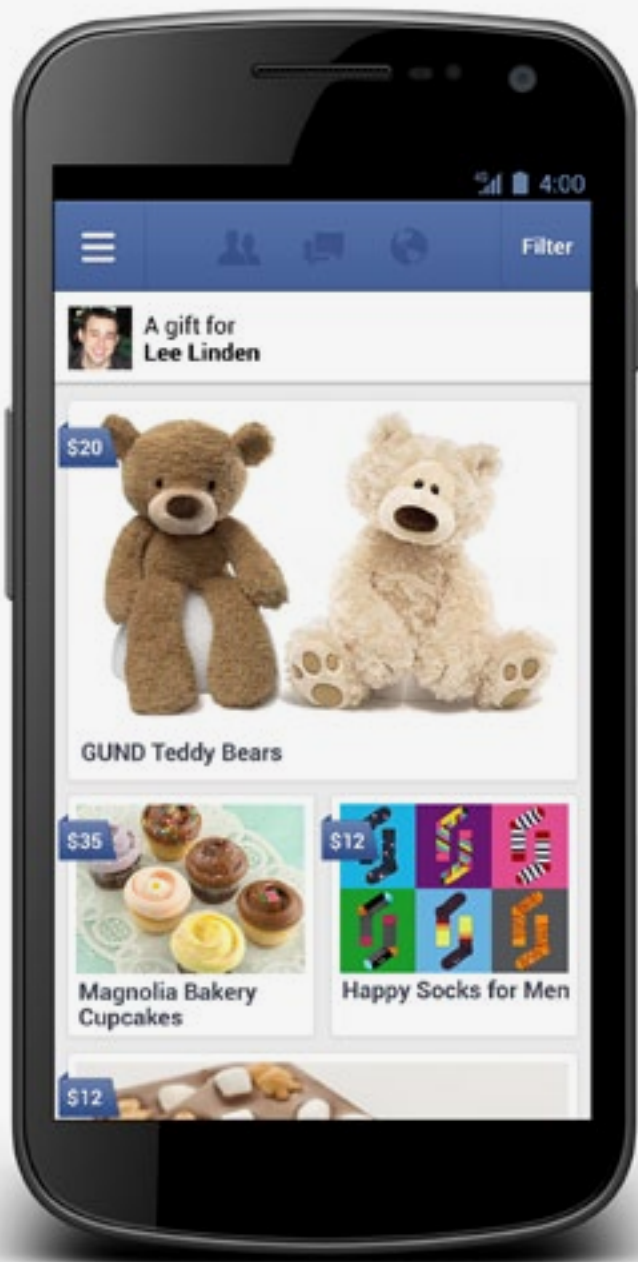
ing examples — to the average user, at least — involves an ad offering what Facebook has dubbed “partner categories.” That vague moniker covers targeted advertising based on information gained from data brokers like Acxiom, Data-logix and Epsilon, who in turn get their information through loyalty card programs and other sources.

Facebook has broken that data down into 500 unique groups advertisers can choose from (as of April), which get as specific as, for ex-

ample, those who buy a lot of children’s cereal as opposed to fiber or hot cereals. In another example, Facebook says “a local car dealership can now show ads to people who are likely in the market for a new car who live near their dealership.” As *Wired*’s Ryan Tate noted when that new advertising option was announced, Facebook isn’t necessarily doing anything new by using that type of information to deliver targeted ads, “they’re just doing it more effectively than everyone else.”

Facebook’s targeted advertising reach can also extend to other websites you visit if they participate in the company’s Facebook Exchange program, which lets it deliver ads based on your browsing habits. As with the partner ads, these are some of the more subtly targeted ads from the user’s perspective, as they don’t require you to directly link your ac-





Didn't even know it was your friend's birthday? Don't worry, Facebook will remind you and even offer convenient gift ideas.

count or log in at the site in question; simply being logged into Facebook itself and having cookies enabled in your browser are enough. And, according to a recent report from *Ad-week*, advertisers seem happy to pay a higher upfront price for those ads given the far better returns they deliver — including the possibility of added exposure at no extra cost as other users comment on, like and share the ads themselves.

Those ads are also constantly evolving. Just last month, Facebook announced that it was streamlining its advertising offerings, cutting down the number of different ad units it offers from 27 to less than half that number. Not surprisingly, that new focus places an even greater emphasis on “social ads.” In announcing the changes, Facebook said that it would “include the best of sponsored stories in all ads,” and “automatically add social context to boost performance and eliminate the extra step of creating sponsored stories.” Facebook

went on to say that it knows “social enhances ad resonance,” and cited research from Nielsen, comScore and Datalogix that shows “social context can drive awareness and return on ad spend,” adding that it therefore wanted to “make it easier to add it to our ads.”

Facebook Gifts takes targeted advertising yet another step further, prompting you to buy your friends an actual gift if they announce a “life event,” which you can do without ever leaving Facebook. A recent expansion of the service even allows those prompts to appear if a person doesn't specifically choose one of Facebook's preset life events — just a mention of the right keywords in a status update indicating a new job or a new home is enough to trigger a gift suggestion. In those and other instances, Facebook is getting smarter about who you are and what you're doing, but we're also giving it a lot of information to work with.



“YOU CAN’T GET AWAY FROM YOUR PAST.”

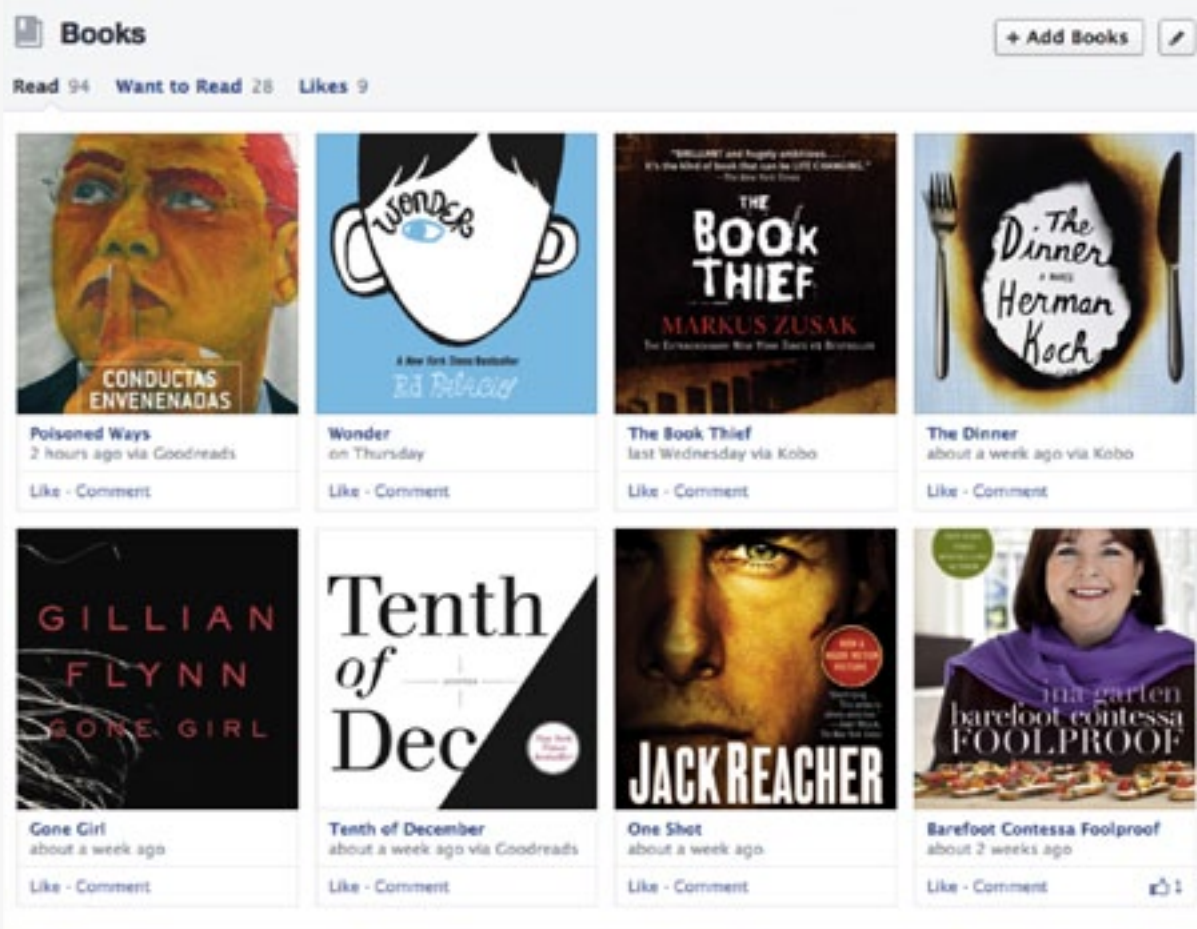
As with the Gmail situation, Facebook’s use of your data to drive advertising hasn’t proven to be a dealbreaker for most — indeed, its reach has only continued to grow, long since crossing the 1 billion-users mark (and, incidentally, the 1 million-active advertisers mark). But it does seem to have pushed more buttons, and it has been enough to drive some away from the social network. One vocal critic is author and media theorist Douglas Rushkoff, who explained why he was finally quitting Facebook in a column for *CNN* earlier this year.

“It does things on our behalf when we’re not even there,” he said in the column. “It actively misrepresents us to our friends, and worse misrepresents those who have befriended us to still others.” As Rushkoff sees it, Facebook’s true end users are not its 1 billion-plus members, but “the marketers who want to reach and influence us.” These are companies that he says used to do the hard work that we (with Facebook’s help) are now doing for them: building consumer profiles with a level of detail that simply wouldn’t have been possible before.

Rushkoff’s decision to quit Facebook was partly due to

a realization that the company’s behavior conflicted with the values put forth in his work, especially as detailed in his most recent book, *Present Shock*. “Your friends from the past show up and try to get equal weight to friends in your present,” he told me. “There’s no distance afforded by time. You can’t get away from your past.”

By adding content you consume or like, not only does it build your profile, but it also teaches advertisers your preferences.



That state of “present shock,” he said, is compounded by what the company does with the information it collects about you. “Facebook’s big data computers are doing statistical analysis on your future choices and delivering marketing messages to you for things you don’t yet know you want. Your as-yet-unrealized future is brought forcibly into your present as well.” According to Rushkoff, “that’s part of the reason why the interface feels so weighty, so cumbersome,” and why the service itself “feels like a commitment.”

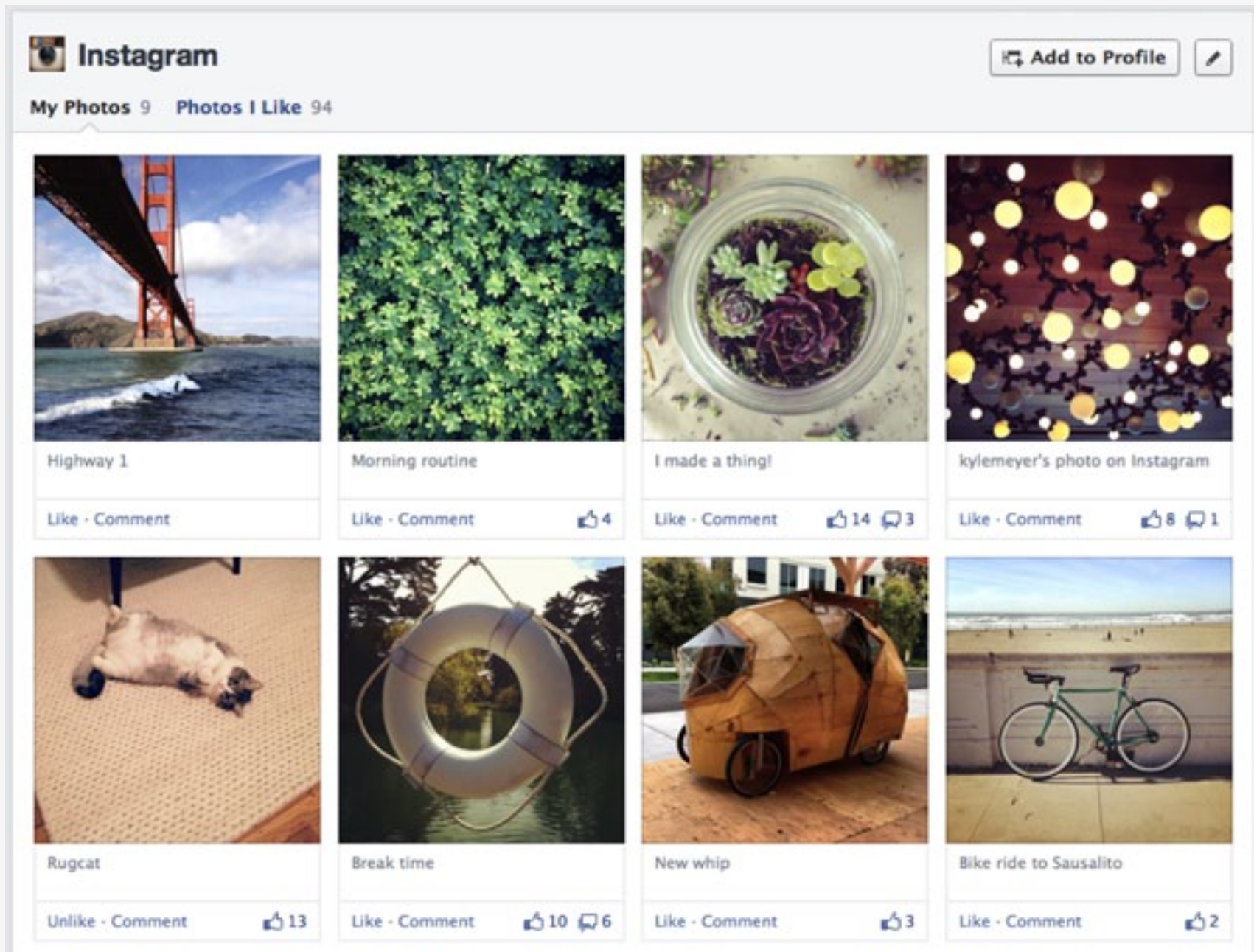
From Facebook’s perspective, though, its goal is to make sharing as “frictionless” as possible. That’s evident not only in the ways it enables sharing through other websites and apps, but also in the ways it encourages sharing directly through Facebook — something that’s been particularly clear in its growing push into photo sharing.

INSTANT MEMORIES

The biggest example of that, of course, is the company’s acquisition of Instagram. Facebook itself has always been a photo-sharing site, but it tended to focus more on photos that people have taken and then uploaded some time later. With Instagram, Facebook was not only extending its reach further into the lives of millions of users — it was also getting a new stream of real-time information. People still choose and edit which photos they share on Instagram, but they generally do so at the moment they decide to take the picture. While there are plenty of exceptions, a person’s Instagram feed is more like a series of visual status updates than a traditional photo album. It shows what you’re doing, where you are and what you like, not what you’ve done.

That focus on a real-time photo stream was again highlighted with the release of Facebook’s own Camera application for iOS devices in May of last year. Unlike Facebook’s primary mobile app (which you can also use to take and share photos), Facebook Camera is only concerned with photo taking and photo sharing. Yet another example is the Photo Sync feature introduced last fall. With





Facebook's Instagram acquisition adds a new dimension to the data it can collect about its users' likes and activities.

it enabled (it's a rare opt-in option for Facebook), every photo you take on your phone is automatically uploaded to a private album on Facebook (much like Apple's Photo Stream), from which you can then choose to publicly share photos with your friends.

Most recently, Facebook brought video to Instagram. Not video as we've known it all these years, but short videos of the sort Vine has popularized (15 seconds in Instagram vs. six in Vine). Those types of videos may have only caught on recently, but it's not hard to see why Twitter and, now, Facebook have embraced them: they're designed to be shareable.

In addition to promoting more sharing to your own feed, photos or videos can also add a weight of sorts to a status update, encouraging more sharing and "liking" by others. In an essay published on *The Atlantic* website, Nathan Jurgenson took things further and suggested that



we're in danger of developing a "Facebook Eye," with moments of everyday life increasingly informed by thoughts of "what might best be translated into a Facebook post," and what "will draw the most comments and 'likes.'"

That mindset is undoubtedly just fine with Facebook. Whether it's photos or status updates — in a stream or on a static profile page — Facebook's most valuable asset is not simply its millions of users, but the millions who are constantly updating their likes and dislikes, their friends and acquaintances — and, increasingly, their daily behavior down to the minute.

INFORMATION, INFORMATION AND MORE INFORMATION

The end result of that is not only more targeted advertising, but entirely new products and services based on all that information. Nowhere is that more evident than in Facebook's Graph Search, which launched in beta earlier this year and is rolling out more broadly this month.

Graph Search is a search engine, but not in the traditional sense. The "graph," as Facebook describes it, is a set of tools given to users to "map out their relationships with the people and things they care about." Graph Search, as explained in the post announcing it, is "a new way to navigate these connections and make them more useful."

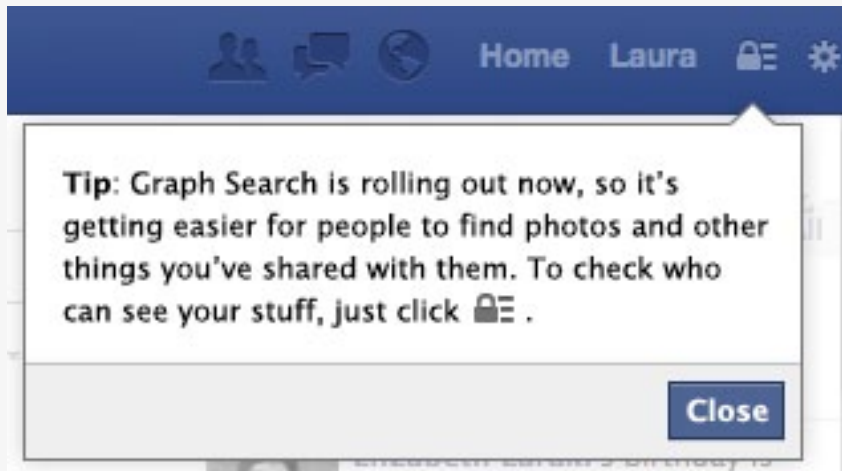
Looked at another way, Graph Search is also a revealing example of just how much Facebook knows about its users. While it doesn't publicly reveal any new information about Facebook users that they haven't shared previously, it can resurface information that has long since receded into the background, and which many users may well have forgotten about completely.

Your "likes" and other personal information no longer exist in isolation. With Graph Search, they become a keyword of sorts, able to produce search results for queries like "restaurants my friends in New York like," or "favorite movies of my friends who speak French and like bicycling."

As with many new features introduced by Facebook, there were immediately concerns raised about privacy — something



the company sought to address in a follow-up post to the original announcement titled “Protecting Your Privacy in Graph Search.” In it, the company explained that Graph Search ad-



Many new features on Facebook also entail security changes and Graph Search has set off “privacy alarms” for some of its users.

heres to the same privacy settings as the rest of Facebook, and it pointed to its latest privacy tools that users could use to control what they share. A video and some additional pages further detailed how users could adjust those settings.

Once you dive into those settings, though, it's not hard to feel the sense of commitment associated with Facebook that Rushkoff talked about. You

can fine-tune your privacy settings to suit the current state of the social network, but its past history suggests that you'll also have to revisit them from time to time as it introduces new services that may again change how your information is used or displayed.

Another example of the sheer amount of information Facebook users have shared about themselves can be found not on Facebook itself, but courtesy of a third-party tool. Introduced earlier this year, Wolfram Alpha's Personal Analytics for Facebook offers just that, a detailed analysis of your life as it exists on Facebook.

Generating a report for your own account reveals an extensive look at the makeup of your friends (where and how they tend to be clustered), the subjects you tend to talk about the most, which of your friends influence you the most and which of your photos and posts have been the most popular, among other stats. Not surprisingly, the more you use Facebook, the more detailed that report will be.

Along with personalized reports, the tool also lets users opt in to a “data donor” program that allows them to contribute anonymous information to Wolfram Alpha for research purposes. That effort has already borne some significant results, which Stephen Wolfram — himself a pioneer in the field of personal analytics — detailed in a blog post in April.

While not entirely representative of the general Facebook populace (only those inclined to share their data with Wol-



fram Alpha), the data is nonetheless telling, offering details on everything from the median number of friends a person has (342) to more general trends of when people get married and how their interests change over time.

Asked what has surprised him the most about the data he's been able to analyze so far, Wolfram told me:

The single most surprising thing to me is how regular the data looks. People with all their life choices and activities seem in aggregate to follow remarkably regular curves of behavior.

It's also surprising to me how stereotypical some behavior seems to be. While one might wish it otherwise, the curves of peoples' interests as a function of age and gender seem to follow typical prejudices remarkably closely. We were able to do one comparison between our results from Facebook and results from the US Census. It surprised me how well they agreed.

There were lots of details that surprised me too. For example that teenage girls on average have fewer friends than teenage boys. My teenage daughter has the hypothesis that although girls tend to be more social, they are also more selective in who they friend.

As for whether he has any concerns about the amount of information Facebook collects about its users and what it does with it, Wolfram said:

Obviously Facebook can only have data that people choose to give it. And there's great value to Facebook users in being able to store so much on Facebook, and being able to see their friends' information there. It's clear, though, that one can learn a great deal about certain aspects of a person from their Facebook data. Having all this data exist in one place is a new thing for society. I don't think anyone can know what all the right ways to handle it are. But from what I can tell, Facebook is trying hard to do the right things given all their constraints. No doubt there'll be some gotchas, but I think individuals and society are going to be better off as a result of the existence and responsible large-scale use of all this data.



Facebook itself is also unsurprisingly excited about the possibilities afforded by all the information it knows about users — even beyond its use in advertising. Speaking with MIT's Technology Review last year, the head of Facebook's Data Science team, Cameron Marlow, said that for the first time “we have a microscope that not only lets us examine social behavior at a very fine level that we've never been able to see before, but [also] allows us to run experiments that millions of users are exposed to.” Marlow later went on to say that “it's hard to predict where we'll go, because we're at the very early stages of this science,” adding, “the number of potential things that we could ask of Facebook's data is enormous.”

To be sure, there are also many clear benefits to using Facebook from the user's perspective. Specifically, it's the biggest social network around, which means it's where your friends and family are most likely to be.

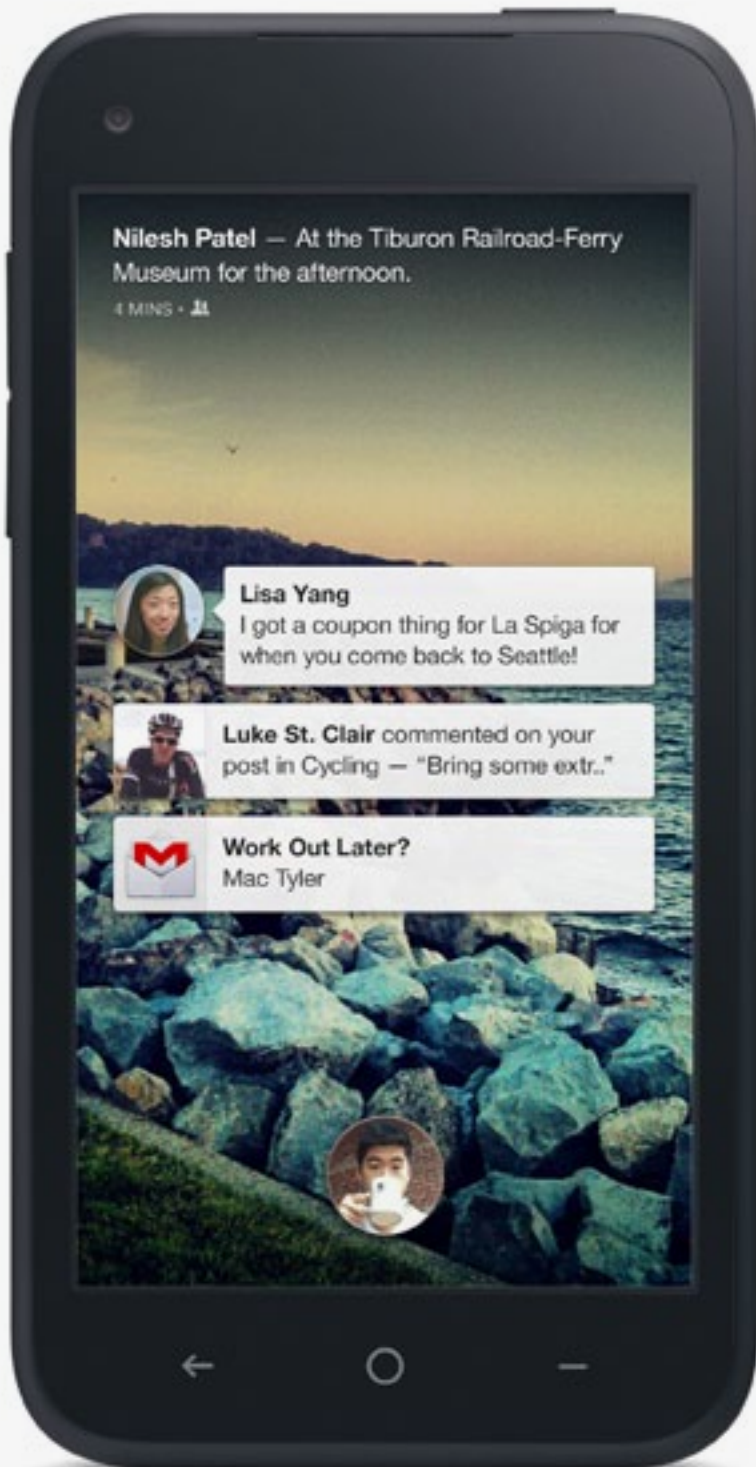
In a recent essay titled “Facebook is just fine,” designer and writer Craig Mod explained how he can recognize Facebook as an “ad machine” and a “personal data farm,” yet also find enough value in it to outweigh all of that. For Mod, the key to maintaining that value lies simply in hiding and pruning things so that his news feed is “almost all signal.”

“If I don't find value in your postings,” he said, “you get hidden. If you're a high school friend I friended just to be nice, I hide.” The end result of all that hiding, Mod said, is not only a better Facebook experience, but also one that gets better the more that he uses it, and better still as more of his friends and family use it.

Of course, you can't hide or opt out of everything Facebook does — the background noise, if you will — but many, understandably, seem willing to accept those trade-offs for the experience they get in the end. And for its part, Facebook is continuing to do all it can to encourage more sharing and embed itself even further into your daily life.

While its long-term success remains to be seen, Facebook Home extends the social network from a website





The Home interface sought to sidestep mobile OSes and allow users to get right to the business that Facebook loves: sharing.

or app to your phone's actual interface — in effect, cutting through the “noise” of the Android OS itself to put the focus squarely on Facebook sharing and Facebook consumption, both of which are now fewer taps away. A recent experiment that the company has been gradually expanding even offers free WiFi in exchange for a check-in at participating businesses. Who can say no to that?

When to say no, though, is perhaps the key question each Facebook user should ask themselves. For many, that may not necessarily be a stark question of when to say no to Facebook in its entirety — it's, as they say, complicated — but Facebook is providing plenty of other opportunities for it to be raised. Be it whether it's worth sharing a piece of information or connecting yet another app to it, or whether it's worth making Facebook (or any other single company) your default internet identity for the sake of convenience and a more personalized experience. The latter has its benefits, but it often comes with costs that aren't always immediately apparent, or

which could change in the future.

As with many things, it's a question of making the trade-offs that you're comfortable with, and doing so in as informed a manner as possible — something that, as we've seen, isn't always an easy thing to do. It's also a question that's worth reconsidering now and then as Facebook and other companies embed themselves into more services and more devices, and ask for more of your time and more of yourself. **D**

Don Melanson is a Senior Associate Editor at Engadget, a denizen of Canada's east coast, and generally curious.





**If you can connect to this.
You can connect to us.**

**Reach State Farm® 24/7/365
by phone, online or app.**



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TEST BED**

 See it in
action!



ESC

DISTRO
07.12.13

VISUALIZED

AVENA+ TEST BED



See it in
action!

The test bed
design and
digital seed
distribution
schematic.

320 M

920 M

15%
Blooming Mix
85%
Oats

Today's precision farming techniques and digital infrastructure offer myriad possibilities for applying design to real world situations. Designer Benedikt Gross recently embarked on an "agricultural printing" project aimed at increasing biodiversity by plotting experimental seed distribution models using existing farm tech on this field in Southern Germany. Breaking up the monoculture field into diverse sections helps to reduce infestation and hopefully, the need for pesticides. With the EU providing subsidies to farms for diversification, conservation and greening practices, these agricultural models help pioneer economic and innovative solutions for existing landscapes.

BENEDIKT GROSS



HENRIK TAUDORF LORENSEN



The [CORPORATE VP OF B&O PLAY](#) on the focused Path and face-to-face connectivity

What gadget do you depend on most?
Our brand-new in-ear headphones, BeoPlay H3, are perfect for me. Solid for telephone calls, perfect fit, nice materials and design. And then the sound is just amazing.

Which do you look back upon most fondly?

My Hewlett-Packard 32S RPN calculator. I got it back at university when I studied physics. It is an amazing workhorse. I still have it and carry it around with me every day. The button design and tactile feedback is so refined — which is a killer feature for a cal-



culator. You can tell that they put a lot of effort into even the smallest details.

Which company does the most to push the industry?

For audio, we do. We are dead-serious about music and design and believe that it is time to bring real quality back into music listening.

What is your operating system of choice?

Mac OS X. I like the novel ideas behind some of the new operating systems that have entered over the last couple of years, but I really appreciate how most apps under Mac OS X operate in a consistent and smooth way.

What are your favorite gadget names?

The Dyson Airblade hand dryer. Sort of says what it does in a cool ninja way. PalmPilot is another favorite name with the same trait.

What are your least favorite?

When they start with a seemingly random sequence of letters and numbers, try to squeeze the full spec sheet into the name — screen size, processor speed, color variant, etc. I always get the sense that the ambition to make a difference for people is not very high with those products.

Which app do you depend on most?

Path has been on my phone for two years now. It allows you to form a narrow group of selected friends and share moments together like you would on Instagram, Facebook or similar. I have a good group of friends and family that are always traveling and on the move. We stay connected through Path in a way that would not happen on the open networks.

What traits do you most deplore in a smartphone?

“You want me to be a word processor for your next novel? Sure, I can do that. I am also great at editing spreadsheets, and I can replace Photoshop if needed...” Trying to be everything to everyone, rather than being good at something.

Which do you most admire?

Intuitive interface, data connection and geolocation at the same time — so many useful ways to combine and apply this.

What is your idea of the perfect device?

Great devices are always a result of a solid design process. Great design is about solving a real problem or need for the user, and once you really understand this need, all aspects of the design should reflect this.

This is how we design our



products in B&O Play — we are all about enabling people to really enjoy music. Our products not only sound amazing, but are designed to be joyful day in and day out — the form, the interface, the natural materials ... you are much more likely to embrace the devices into your life.

What is your earliest gadget memory?

I got my first computer from my grandmother when I was about

7 years old. It was a Sinclair ZX Spectrum. The keyboard was made of small rubber buttons where each of them represented something like five or more functions, and you would program it by various button combinations to get the functions out. It was a crazy interface, but it got me hooked on programming.

What technological advancement do you most admire?

The telephone — allowing real-



The 1982
Sinclair ZX
Spectrum
personal
computer.



time communication over distance. That was a conceptual breakthrough.

Which do you most despise?

Can't think of any despicable technological advancements in themselves. What comes to mind are despicable "applications," not the advancement in itself.

What fault are you most tolerant of in a gadget?

Battery life is an issue on most of my gadgets. It seems like this has suffered in recent generations of laptops and smartphones to make them more portable. I guess I have just learned to live with it.

Which are you most intolerant of?

Software instability or inconsistent behavior.

When has your smartphone been of the most help?

I was in London the other week, and couldn't find my destination. Google Maps was a great help.

What device do you covet most?

A custom Fender Telecaster. I love the Telecaster sound, shape and playability.

It could fit well into my guitar collection.

If you could change one thing about your phone what would it be?

Battery life. My iPhone hardly makes it through my day without a recharge.

A Special
Edition
Custom
Telecaster
FMT HH.


What does being connected mean to you?

Being present with the people you are with — then you are "connected."

When are you least likely to reply to an email?

When I am asleep.

When did you last disconnect?

Three years ago. We went on a vacation to France, and I didn't bring my phone. I was completely offline for two weeks. I couldn't even remember my password when I came back. 

"The keyboard was made of small rubber buttons ... and you would program it by various button combinations to get the functions out."



IN REAL LIFE is an ongoing feature where we talk about the gadgets, apps and toys we're using in real life.

MACALLY ECOFAN PRO

LIKE A LOT OF FOLKS, I use a laptop as my main computer (a MacBook Air, specifically), but it's often set up more as a desktop. That means an external monitor, mouse and keyboard, with the laptop itself propped up to serve as a second screen. Until recently, that latter part has alternately been done with various books and boxes, but I finally switched to a proper laptop stand a few months ago in the form of the Macally Ecofan Pro.

Unlike many laptop stands, this one actually looks like something you'd want to put on your desk, solidly crafted from bamboo with an unassuming design that should fit well in most work or

living spaces. Macally has even kept its branding to a discreet minimum. It's also about as functional as you could ask a laptop stand to be: it can be left flat or angled in one of three positions, and can even hold up a 17-inch laptop. Two USB-powered fans are hidden inside as well, and are appropriately quiet. One possible fault is that its design means wedge-shaped laptops like the Air are slightly more likely to slide off if you bump the stand or your desk, although I haven't yet run into any problems myself.

At a list price of \$40 (though often on sale), it's certainly a more expensive option than a box or stack of books — and many other

laptop stands, for that matter — but that price is more than reasonable given the no-nonsense design and quality of construction. And if you're at all like me, anything that helps make your desk look a little less cluttered is well worth investing in. — *Don Melanson*



Nexus 4 on
Telus



NEXUS 4 ON TELUS

A LOT OF WATER has flowed under the bridge in the months since the Nexus 4 arrived: we're now in an era where quad-core chips and 1080p displays are commonplace. That makes Google's flagship more of a budget smartphone. But is it any good in that role? I've been using the Nexus 4 on Telus to see whether it still holds up.

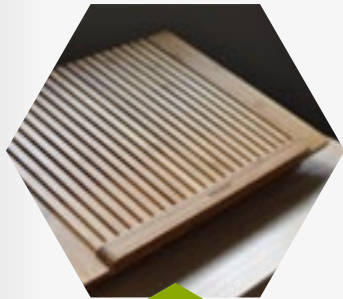
Having used recent flagship devices, what stuns me is the speed. While the Nexus 4 may not have the raw number-crunching ability of the HTC One or Samsung Galaxy S 4, it sometimes feels faster because of that lightweight Google interface. The rear camera may have an odd tendency to refocus, but it's still one of the better shooters in this price class. And it's hard to ignore the value of having a Nexus phone for long-term updates: there's a real chance that you'll still have the latest version of Android

a year later. It's rare when a budget device gets more than one major software update during its lifespan, but the Nexus 4 could easily get two or more.

I don't even miss the lack of LTE... much, that is. Telus supports 42 Mbps HSPA+ data, and the Nex-

us 4's real-world download speeds hover around 17 Mbps downstream and 1.7 Mbps upstream. Those were both more than good enough for the usual Instagram posts and Twitter checks. The relatively slow upload speeds were only truly noticeable with big media uploads, such as Google+ photo backups. I just wish the coverage were better; Telus' signal tends to drop off quickly while indoors, at least in my favorite parts of Ottawa.

If there's anything that could sour the Nexus 4 as a budget smartphone, it's the battery life. While some of my colleagues can get through a day of average use, I regularly need the sort of afternoon top-up I don't require with most other phones, even when they're smaller devices like the iPhone 5. There's no question that I'm more likely than most to tax a phone, but my experience doesn't bode well for those who just want some energy left over for the evening. If you don't expect such problems, grab the Nexus 4 from Google Play if you can — it's far more capable than other off-contract phones in its price range. Otherwise, it may be worth looking for a good deal on the phone's longer-lasting cousin, the Optimus G. — *Jon Fingas*



Macally
Ecofan Pro



The week that was in 140 characters or less

App Nepotism, Spy Demos and The Drone Shuffle

DISTRO
07.12.13

ESC

REHASHED

@rameshsrivats

Pity the sleuth monitoring BlackBerry emails. He'll be desperately trying to nab this elusive character called Paradigm, who keeps shifting.

@journeydan

No coincidence that most of the App Store freebies are iOS exclusives, including two of its best games, Infinity Blade II and Badland.

@JimWhiteGNV

Pay no attention to the QF-4 drone that self-destructed and crashed into the Gulf of Mexico today. Instead, go all "Murica" for the X-47B.

@anthony_barrows

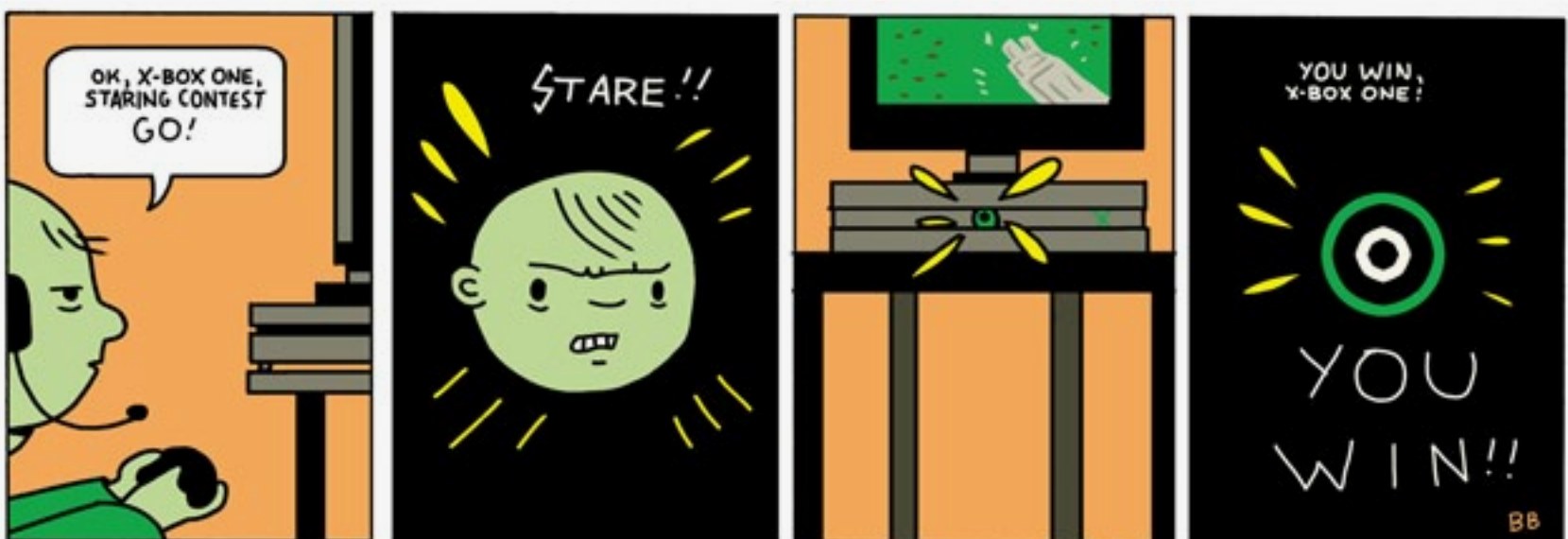
So, I guess Facebook's graph search is like the free demo version of whatever the NSA is using to backdoor surveil us...

@saschasegan

Today: Tacos, @TMobile, tequila? Tremendous.

THE STRIP

BY BOX BROWN



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TIME
MACHINES

WHAT IS THIS?
TOUCH TO FIND OUT



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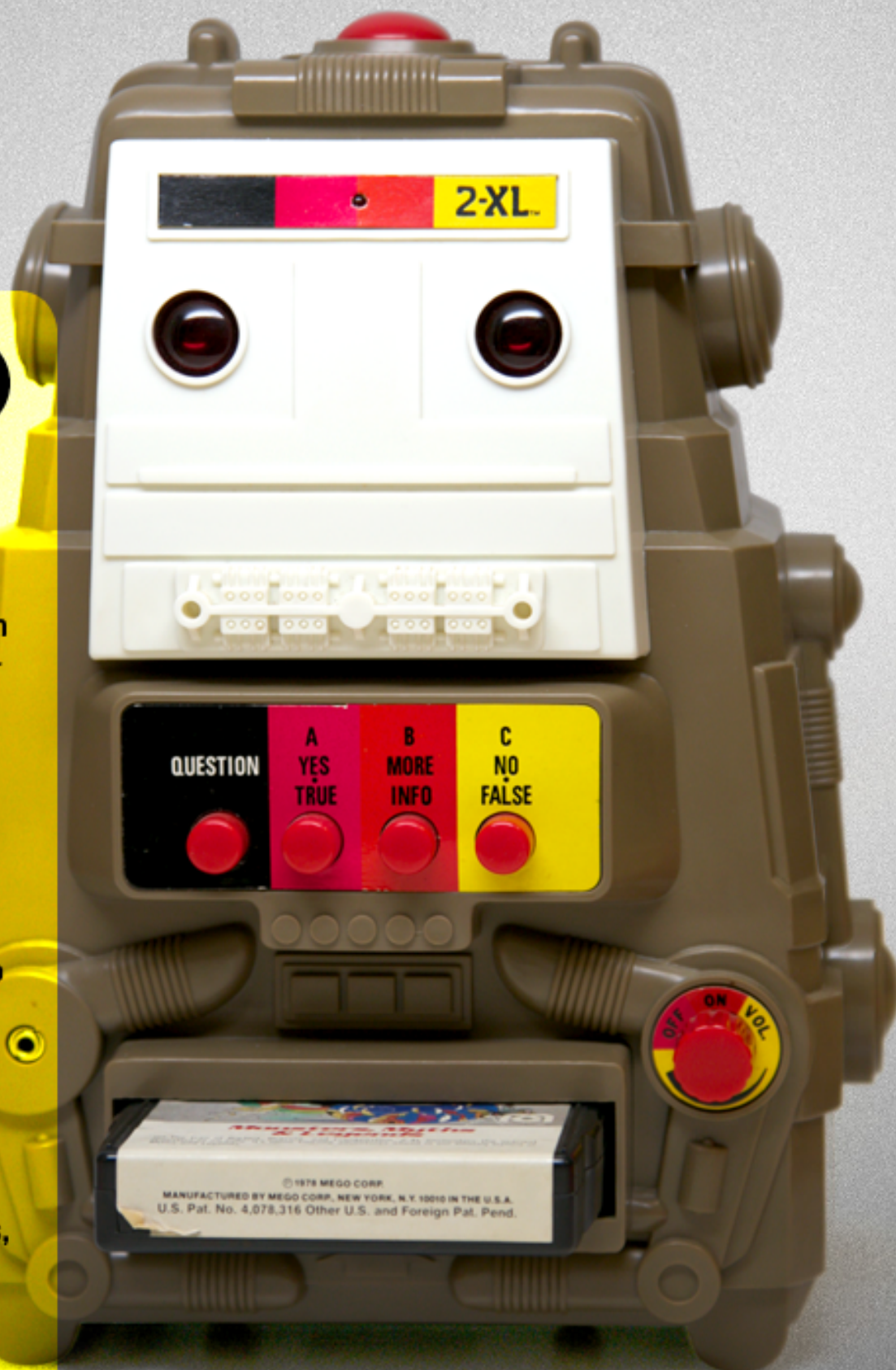
ESC

TIME MACHINES

2-XL



Learning can be fun, especially if you have a robot with a heavy New York accent and an offbeat sense of humor to engage with. After testing out a prototype robot in Bronx-area schools, Dr. Martin J. Freeman fine-tuned his idea and teamed up with toy maker Mego to bring 2-XL (“to excel”) to the market in 1978. Armed with a belly full of 8-track quiz tapes, 2-XL would prattle away, asking questions, cracking jokes and all the while invigorating young minds.





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